

## FIRST GLANCE

### Candidates to speak

Four candidates for dean of the College of Biological Science will give talks this month on the topic "Life Sciences — Toward 2000." All begin at 10:30 a.m. in Room 1714 of the OVC Learning Centre and will be followed by an open forum.

Scheduled to speak are Keith Denford of the University of Regina on Jan. 13; Prof. Tammy Bray, Nutritional Sciences, Jan. 17; Prof. Derek Bewley, Botany, Jan. 18; and Robert Sheath of Memorial University Jan. 20.

Members of the University community are invited to submit written comments on the candidates to the search committee by Feb. 3. The committee is chaired by academic vice-president Jack MacDonald.

### Let's talk teaching

This issue marks the launch of a new regular section called "Forum on Teaching and Learning." Compiled by Teaching Support Services, it is intended to inform and provide an opportunity to discuss issues related to teaching and learning. If you have ideas for this page, a favorite teaching story to tell or innovative teaching methods to share, call Mei-fei Elrick at Ext. 3522.

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Included with this issue of *At Guelph* are a special supplement on the Macdonald Stewart Art Centre and an insert from the Bookshelf Cinema.

### Thought for the week

*The difference between  
genius and stupidity is that  
genius has its limits.*

Anon



### Helping hens

Prol. Jim Squires is using this hypobaric chamber to study an oxygen-deprivation disorder that wreaks havoc on chickens. See story on page 4.

Photo by Trina Koster, Office of Research

## Senators support new policy for students with disabilities

by Sandra Webster  
University Communications

A new policy on admitting and accommodating students with disabilities got the nod from Senate Dec. 20.

Drafted last March by the Senate Committee on Student Development (SCSD), the policy was prompted by provincial human-rights legislation and a dramatic increase in the number of students requesting help from U of G's Centre for Students with Disabilities.

(Watch upcoming issues of *At Guelph* for a reprint of the policy and a profile of the centre.)

SCSD chair Prof. Sandy Middleton, Zoology, told Senate that U of G has a history of being sensitive to and accommodating students with special needs that goes back to 1981 when the presi-

dent's advisory committee on disabled students was formed. The Centre for Students with Disabilities was established in 1991 with funds from the Ministry of Education and Training (MET).

SCSD notes that students, faculty and administrators must all share in the responsibility if the new policy is to be effective.

- Disabled students must identify their needs and give notice so the University can make the necessary accommodations for their special needs.
- Program committees must spell out academic goals and performance levels required for graduation.
- Specific course requirements must be defined clearly.

See PROVINCE on page 2

## Record year for research support

Support for research at U of G has reached a record high.

Figures compiled by the Office of Research show that 1993/94 research support from external sponsors totalled \$67.3 million, a new plateau. That's \$1.2 million more than the 1992/93 year-end figure of \$66.1 million — a funding record of its own — and represents a 20-per-cent increase in support since 1990.

"There is extreme competition for research support," says research vice-president Larry Milligan. "As these funding increases show, Guelph researchers are attracting unprecedented support and advancing the University's reputation as one of Canada's most research-intensive institutions." He calls the growing support "a testimony to their innovation and expertise."

The biggest single source of research funding continues to be the agreement between U of G and the Ontario Ministry of Agriculture, Food and Rural Affairs. In 1993/94, the agreement contributed \$30.6 million to research at Guelph, about the same as the year before. Gains were realized from several sponsors. Among them:

- the Natural Sciences and Engineering Research Council, which provided \$16 million, 3.5 per cent more than in 1992/93;
- the private sector, including business and industry (\$8.6 million, up \$400,000); and
- the Medical Research Council (nearly \$1.1 million, up 10.5 per cent). □

★ ★ ★

## Guelph top pick for URIF funding

U of G researchers came out on top in the University Research Incentive Fund (URIF) competition, receiving more project approvals than any other Ontario university.

Ten U of G proposals worth a total of \$1.17 million received funding. Of that, \$440,050 is being contributed by the provincial government through URIF; the remainder represents support from corporate sponsors.

URIF was established in 1984 to encourage co-operative research ventures between universities and industry by matching private-sector funding with university-based contract research.

In total, 32 projects were announced for seven universities. The Guelph projects approved are:

- "Architecture Exploration and Retargetable Microcode Generation" (\$15,000), Prof. Dilip Banerji, Computing and Information Science. This project is aimed at improving software tools that will benefit Bell Northern Research and Northern Telecom. Corporate sponsor is Bell Northern Research.
- "Paclobutrazol-Induced Stress Tolerance in Economically Important Crops of Ontario" (\$32,250), Prof. Austin Fletcher, Environmental Biology. Fletcher will investigate a novel seed-treatment procedure to increase production and improve the quality of field crops. Corporate sponsor is DowElanco Canada.
- "Specific Modification of Traits in the Chicken by Gene Targeting" (\$15,000), Prof. Ann Gibbins, Animal and Poultry Science. This project represents a new approach to poultry breeding that will produce competitive new lines of chickens and turkeys for southern Ontario. Cor-

See TEN on page 4

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By David Westgass  
Gordon Coulson

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At Guelph top stories and coming events can also be accessed on GRIFF.

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# Province announces no further funding cuts

Continued from page 1

- Administration must realize there are costs involved.
- Faculty will have increased work demands to understand the nature of student disabilities and the accommodations required.

Under the new guidelines, admission and liaison activities will encourage applications from students with disabilities. Alternative forms of information, such as in Braille, will be provided on request, and applicants will be able to volunteer their special circumstances.

On admission, students will receive counselling from resource people and be directed to the Centre for Students with Disabilities. The centre will co-ordinate the services and accommodations the students will need for instruction, learning and evaluation. Faculty will have the final say in what the appropriate accommodation is in their courses.

The policy also outlines procedures for dealing with disagreements on accommodations.

A committee has been designated to co-ordinate library services for these students, and the centre has arranged for peer helpers to help them use the library's facilities.

An accessibility advisory committee has been established to monitor physical accessibility to all academic facilities and residences. Special assistance arrangements will also be available at convocation.

President Mordechai Rozanski noted that Bill 168, a provincial private member's bill, is pending that calls for universities to be mandated to be more accessible to students with special needs.

Some people perceive that universities aren't doing enough, he said, but that's incorrect. "Guelph's policy will go a long way to show that we are sensitive to accommodating students with special needs and that we are meeting these in a responsible and voluntary manner."

Prof. John Simpson, Physics, suggested that the guidelines contain definitions of learning disabilities and make clear how a professor is to know if an accommodation is appropriate.

Middleton said definitions would be added to the policy, but it would be difficult to include the appropriate accommodation with each disability because there are so many kinds and varying degrees of disabilities. "We must look at each on a case-by-case basis," he said.

Faculty are encouraged to contact the centre to discuss appropriate accommodation for students.

Prof. David Wayne, Computing and Information Science, said fac-

ulty need a dossier to follow a student's progress and to help in a holistic manner. Middleton noted that the new policy provides guidelines for faculty to work closely with the Centre for Students with Disabilities. It also gives faculty and the centre more time to work out arrangements for students because they must now identify themselves no later than the 40th class day of the semester.

Prof. Janet Wood, Microbiology, said it would be educational for senators if the centre would report back to Senate on situations that have arisen and the kinds of accommodation used.

## No new cuts

Rozanski informed Senate that the province has officially announced that "everything else being equal," grants to universities will not be cut further in 1995/96. U of G is aggressively exploring how to benefit from some \$300 million in government money available for job security, retraining and development of "demonstration projects" related to rationalization, he said.

He also noted that the Ontario Council on University Affairs (OCUA) has decided to delay its report to Education and Training Minister Dave Cooke on its discussion paper "Sustaining Quality in Changing Times" until Ottawa reveals its policy on transfer payments this spring.

The discussion paper outlines plans for a remodelling of the Ontario university system that would allow the province to cut costs significantly and increase accessibility, accountability and equity.

Rozanski added that MET and the provincial government are on public record as not favoring proposals in Human Resources Minister Lloyd Axworthy's discussion paper "Improving Social Security in Canada." It calls for sweeping changes to the country's \$38.7-billion-a-year social programs. Universities say that if the proposals were implemented, revenues to postsecondary institutions would be drastically cut and they would be forced to double tuition fees.

Rozanski said he and other university presidents have been working to lessen the drastic impact of the proposed federal cuts on universities. Several Board of Governor members have helped with this effort. In addition, the presidents hope to meet with Axworthy this month to explore continued support for research infrastructure and to minimize the need to raise tuition, he said.

## SCUP considers mergers

Prof. John Barta, Pathology, chair of the Senate Committee on University Planning (SCUP), updated senators on a proposal to

merge the offices of Graduate Studies and Research.

He said the Board of Undergraduate Studies and the Board of Graduate Studies (BGS) held a combined meeting and decided the merger is inappropriate at this time. SCUP agrees and recommends that the academic vice-president work closely with the research vice-president and dean of graduate studies to encourage closer collaboration between the two offices, Barta said.

SCUP also reviewed a recommendation to merge the Centre for International Programs and International Education Services. The proposal did not need Senate approval because the merger does not involve changes in the mandates of the units, said Barta.

## Library study

Acting librarian Ron MacKinnon said the library plans to conduct a study of its services this month and determine what it should be offering next fall.

Recent requests by students for the library to extend hours and make the resource collection available during exam periods will be part of the study, said MacKinnon. The library could not meet these requests for the fall term because the short notice left insufficient time to resolve staff and safety issues, he said.

## Membership streamlined

Vacancies that occur on a Senate committee or board during the academic year can now be filled at any meeting of the Senate Committee on Bylaws and Membership.

Membership changes will not come to Senate for approval as in the past. The full membership of committees will, however, continue to go to Senate for approval at the second to last meeting of the Senate year. Changes throughout the year will be placed on GRIFF or attached to the Senate agenda.

This revision to Bylaw F.9 is expected to reduce the time that a committee or board has to work with a reduced membership because of a resignation.

## TSS update

SCSD also gave senators an update on organizational changes in Teaching Support Services (TSS). The changes are designed to strengthen faculty contributions to enhanced teaching and learning and to provide increased support for development in learning technologies.

Prof. Tom Carey, Computing and Information Science, and Prof. Ron Stoltz, Landscape Architecture, head TSS on part-time secondments. Stoltz directs the teaching resource group, which aims to strengthen the scholarly culture for teaching. Carey leads

the learning technologies group, which supports enhancement of learning through emerging technologies.

Classroom Technical Services, headed by George Taylor, continues to manage classroom equipment and audio-visual services. It also provides technical support and consulting for video production and computer repair services on a cost-recovery basis.

Four learning technology co-ordinators have been assigned to specific areas — Elizabeth Black, Arts/CSS; Don McIntosh, CPES; Brent Mersey, Library; and Les Richards, FACS/OVC. TSS intends to eventually have all the colleges covered.

TSS will be profiled in a future issue of *At Guelph*.

## Early degree completion

This spring, BGS will introduce a new approach for dealing with the early completion of graduate degree requirements.

Senate received for information details of the policy, which will require a graduate student to submit preregistration materials, but will allow them to obtain a tuition refund during the first 10 weeks of the subsequent semester (prorated on the basis of 10 per cent per week).

If all degree requirements were completed by the end of the first week of the new semester, the rebate would be 100 per cent. At the end of the sixth week, it would be 50 per cent. After 10 weeks, it would be 10 per cent.

The new approach is expected to relieve some of the pressure that students, advisers, departments and the Office of Graduate Studies feel when a thesis defence is done in a short timeframe. Information explaining the new plan will be distributed to all graduate academic units and through the Graduate Students' Association to students.

## COU report

Rozanski noted that Prof. Carlton Gyles, Veterinary Microbiology and Immunology, Guelph's representative on the Council of Ontario Universities (COU), will give a report at the Jan. 17 Senate meeting on COU's concerns about the dramatic decline in the number of visa students at Ontario universities and the punitive fees they pay.

Derek Jamieson, director of Institutional Analysis and Planning and a member of a joint committee of the Ontario Council on Graduate Studies and Council on University Planning and Analysis, has submitted to MET via COU a discussion paper called "A New Model for International Graduate Student Tuition Fees in Ontario Universities." Watch for details in an upcoming *At Guelph*. □

## UNIVERSITY OF GUELPH

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Please Recycle





Data Com Technologies is now offering computer sales and service from its new location in the campus bookstore. From left are co-owner Zafar Syed, Mike

MacNeil from sales and service, co-owner Hameed Mohammed and manager Lane Romel. Absent are William Moore and Jim Knight.

Photo by Kerith Waddington, University Communications

## Campus computer store changes hands

Computer hardware service is once again available on campus.

Data Com Technologies — an independent service-oriented computer sales company from Cambridge — set up shop on the second floor of the campus bookstore Jan. 2 as U of G pulled out of the computer sales business.

The impetus for this change was twofold, says Garry Round, director of Hospitality/Retail Services. "Changing technology and a product requiring service meant that the quality of aid and attention demanded by customers could not be provided without specialization," he says. "Data

Com Technologies will remedy this situation."

Restructuring 3 1/2 years ago led to the amalgamation of Hospitality and Retail Services and withdrawal of the service component of the computer store due to the specialization required. A substantial loss of business occurred as people with hardware problems went elsewhere for help, says Round. Now he expects the computer store's biggest contingent of customers — the University community — will welcome the convenience of having both computer sales and full-time service technicians on campus.

Data Com Technologies — in business for about 10 years — was selected after rigorous examination of a large number of off-campus computer businesses, says Round. There was already a high level of satisfaction with the company among campus customers, he says.

"Thanks to Data Com Technologies, the U of G location will be returning to a full-service computer store."

The campus computer store will be open during bookstore hours — 8:30 a.m. to 5:30 p.m. Monday to Friday and 10 a.m. to 4 p.m. Saturdays. □

## Printing operations set to centralize in March

by Kerith Waddington  
University Communications

Streamlining of the three printing operations on campus this March is not expected to compromise customer service thanks to high-tech equipment and longer hours of operation.

Higher efficiency is behind the move to combine printing services on campus, says Garry Round, director of Hospitality/Retail Services. The three current operations located in the basements of OVC, the MacKinnon Building and the University Centre are used only sporadically and have hours limiting accessibility and convenience, he says.

To address these problems, the MacKinnon operation will close and its 7,000-document-an-hour, high-quality DOCUTECH printing equipment will be transferred to the UC location, which will operate with extended hours to meet customer service requirements.

The OVC print shop will be combined with the OVC bookstore, thus guaranteeing service

during bookstore hours.

Round believes customers stand to benefit from these service-oriented changes. "A quality print service will be available that is prompt, on time and on campus," he says. "Centralization will not compromise convenience."

Customers in the MacKinnon Building will continue to be catered to with a new pick-up and delivery service for the building, he says. The viability of offering a similar service to other sites on campus will be studied.

Overflow at the OVC location will also be picked up for printing in the UC, where DOCUTECH equipment and a computerized production-management system that tracks orders and ensures that time schedules are met will further guarantee customer satisfaction, Round says. And that's what a service-oriented business is all about, he says.

"Efficiency and convenience are key to success in printing, and centralization and revision of campus operations will provide both." □

## Cultural studies in the spotlight at colloquium

The College of Arts will stage a colloquium Jan. 18 to Feb. 10 to highlight cultural studies at U of G. Sponsored by the college and the recently formed inter-college Cultural Studies Council, the colloquium will feature speakers and round-table panels. All events are open to the public.

Drawing on sources in the humanities and social sciences, cultural studies is the interdisciplinary study of the production of human culture. The major goal of

the colloquium is to bring together people involved in cultural studies throughout the colleges of Arts and Social Science, says Prof. Alan Filewod, Drama, one of the colloquium organizers.

"We use the same books and the same sources, but we never really have a chance to talk to each other," he says. The colloquium is an effort to "get us talking more, working together, creating new links, finding those similarities."

At the same time, the organizers hope the colloquium will give the rest of the University community a chance "to learn more about cultural studies and see that it is a far-reaching and important discipline," says Filewod.

A distinguished speakers series kicks off Jan. 18 with Len Findlay of the University of Saskatchewan discussing the development of cultural studies in Canada. His talk begins at 8 p.m. in UC 103.

Noted Australian literary theorist Bill Ashcroft will explore postcolonialism and cultural studies Jan. 23 at 2 p.m. at the Inner Stage. On Feb. 3, cultural studies professor Maureen McNeil of Birmingham University offers a cultural studies analysis of fetal alcohol syndrome at 2 p.m. in Room 129 of Macdonald Hall.

U of G speakers are Prof. François Paré, French Studies, who explains the theory of marginalized cultures Jan. 31 at 1 p.m. in MacKinnon 203, and Prof. Ric Knowles, Drama, who discusses the relationship of ideology and popular culture in Don Cherry's *Coach's Corner* Feb. 10 at 2:30 p.m. in the University Club.

The round-table panels will address specific areas of cultural studies at Guelph: "What is Cultural Studies?" (Jan. 19 at 2:30 p.m.), "Research and Scholarship" (Jan. 27 at 2:30 p.m.) and "Issues for Pedagogy" (Feb. 6 at 4:30 p.m.). All panels will be held in the University Club. □

## Engineering student wins memorial award

by Maurice Oishi

First-year engineering student Dyon Smith of Cambridge is the winner of a national award commemorating the Dec. 6, 1989, massacre at L'Ecole Polytechnique.

The memorial award, given by the Canadian Engineering Memorial Foundation to a first-year female engineering student, is based on academic achievement. Smith is a Canada Scholar and former president of her high school student council.

Outside of school, Smith has been judged the best power and glider pilot among Air Cadets in Ontario, and was last year named Miss Teen Cambridge. She says the irony of her pageant victory and her receipt of the memorial award hasn't escaped her. She entered the contest at the encouragement of teachers and considered participating in the Kitchener/Waterloo event, but dropped out.

"Since then, I swore I'd never enter another pageant," says the 19-year-old. "It was pure exploi-

tation. It didn't celebrate the achievements of women." She continues to work with the Cambridge event organizers to make it a recognition of individual character and accomplishment, she says.

The Gibraltar-born Smith is interested in biological engineering and intends to pursue a career in prosthetic (artificial limb and organ) design.

Her interest in this area stems from the television show *The Bionic Man* and time spent in laboratories with her father, a nuclear engineer. She says she was fascinated by the TV program, but "it wasn't just the show. It was a completely different way of looking at medicine."

Since then, she's noticed how changes in medicine — the introduction of nuclear magnetic resonance imaging and CAT scans, for instance — have been driven by engineers.

Smith chose Guelph because of the biological engineering program. "No other school had a program quite like it," she says. □



Dyon Smith, winner of a national award commemorating the Montreal massacre, plans a career designing prosthetics such as the artificial hand shown here.

Photo by Maurice Oishi



# Michael Jackson's oxygen chamber turned inside out to study costly poultry disease

by Kerith Waddington  
and Owen Roberts  
Office of Research

Michael Jackson, eat your heart out.

The kind of space-age technology involved in the pop star's "anti-aging" strategy is being used in reverse by U of G animal scientists to study an oxygen-deprivation disorder that wreaks havoc on chickens.

In Canada, the disease — called ascites (a-SITE-tees) — costs Canada's poultry industry \$13 million a year — equal to the gate receipts of about three sold-out Jackson concerts in New York City.

"If the broiler industry is going to continue improving the growth rate of animals, the problem of ascites will have to be controlled," says Prof. Richard Julian, Pathology, who is studying the condition with Prof. Jim Squires, Animal and Poultry Science.

Ascites is commonly called "waterbelly" because of the

symptomatic fluid buildup in the animal's body cavity. To better understand it, the Guelph researchers are using a hypobaric chamber. It's a sealed controlled-atmosphere unit into which they can place healthy chickens, lower the oxygen level and simulate conditions consistent with ascites.

In 1986, Jackson orchestrated a public relations effort that produced photos of him sleeping in a hyperbaric chamber. It's also a sealed unit and, with Jackson inside, looked a bit like a casket with a window. But instead of having decreased oxygen, a hyperbaric chamber has extra oxygen. According to Jackson's handlers, sleeping in an enhanced oxygen environment would add 70 years to the star's life. It later turned out to be a hoax.

But Squires and Julian are on a different track. The hypobaric chamber they've created provides the kind of oxygen environment found a mile above sea level, in places like the Andes Mountains.

By lowering the oxygen level, the researchers increase disease incidence to better understand the conditions necessary to prevent it. Oxygen deprivation — caused by overcrowding, poor ventilation and fast growth stemming from improvements in both feed and genetics — is where ascites prevails.

"Broilers are growing more quickly, but their rigid lung structure is not able to handle the blood flow required to supply the oxygen demands of their tissues," says Squires. "We want to reach a happy medium where it's possible to both control the disorder while maintaining growth."

The oxygen deprivation that marks ascites causes red blood cell counts to increase, leading to higher blood pressure because of the limited carrying capacity of a rigid lung structure. Heart-valve failure eventually causes death, preceded by the release of liver fluid — the source of waterbelly.

Squires and Julian are keeping watch on several fronts, including:

- Identification of birds naturally resistant to ascites and the qualities that make them so.
- Manipulation of feedstuffs and incidence of ascites.
- At what altitude does the problem appear?

■ At what level of oxygen deprivation does ascites appear? How long at that level of deprivation must a bird be exposed until ascites appears?

■ Can increasing dietary Omega-3 fatty acids increase red blood cell malleability or "squishiness," therefore reducing blood pressure and the incidence of ascites?

■ Cold temperature appears to cause ascites as broilers' bodies overcompensate metabolically. Exposure to what temperature — and for how long — causes ascites?

Tests are ongoing at both the University and the Arkell Poultry Research Station. Squires believes findings will positively influence the industry.

"Establishing the factors that aggravate ascites and developing the means to reduce their prevalence will economically benefit both poultry producers and industry."

This research is sponsored by the Ontario Ministry of Agriculture, Food and Rural Affairs, the Ontario Chicken Marketing Board, the Canadian Chicken Marketing Agency, the Canadian Turkey Marketing Agency and the Poultry Industry Research Centre. □

## URIF deadline nears

The Ministry of Education and Training's next deadline for applications to the University Research Incentive Fund (URIF) is Jan. 31. They must be submitted to the Office of Research for approval by Jan. 24.

The URIF program matches industry funding dollar for dollar. The main focus is on projects that will benefit both the individual university and the Ontario economy. This includes student jobs and plans to commercialize results of the research. The maximum URIF award for a new project is \$250,000.

Other application deadlines in 1995 are May 15 (May 8 in the Office of Research) and Sept. 29 (Sept. 22 in the Office of Research).

Applicants are encouraged to consult with Barbara Leachman in the Office of Research in preparing proposals. She can be reached at Ext. 8761. Additional information is available from Wendy Rinella at 416-314-3860. □

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## Ten research projects win support

Continued from page 1

porate sponsor is the Ontario Egg Producers' Marketing Board.

- "Preparation of Recombinant Phage Antibodies and Comparison with Monoclonal Antibodies" (\$24,000), Prof. Chris Hall, Environmental Biology. Hall is working to develop new and improved methods of immunization that don't require the use of animals to obtain antibodies, as well as new methods of detecting pesticide residue. Corporate sponsor is DowElanco Canada.
- "Control of Grey Snow Mould with *Typhula Phaeorrhiza*" (\$60,000), Prof. Tom Hsiang, Environmental Biology. Hsiang will research a biological control alternative to the

mercury-containing fungicides now used in Canada to control grey snow mould. Corporate sponsor is the Canadian Turfgrass Research Foundation.

■ "Microsatellite DNA Analysis of Barley for Cultivar Identification" (\$20,000), Prof. Ken Kasha, Crop Science. This research is aimed at developing a DNA fingerprint that will determine which barleys are best for making malt and beer. Corporate sponsor is the Brewing and Malting Barley Research Institute.

■ "Breeding for Enhanced Disease Resistance Using DNA Fingerprinting Technology" (\$90,000), Prof. Tom Michaels, Crop Science. Michaels will be using DNA technology to develop superior

bean varieties with higher disease resistance and superior yield and cooking quality. Corporate sponsor is the Ontario Bean Producers' Marketing Board.

■ "Yttrium-Based Ziegler-Natta Olefin Polymerization Catalysts" (\$78,800), Prof. Warren Piers, Chemistry and Biochemistry. This project will develop new and improved plastics products. Corporate sponsor is the Institute of Chemical Science and Technology.

■ "The Use of Aminoguanidine in Animal Nutrition" (\$15,000), Prof. Trevor Smith, Nutritional Sciences. Smith will study the potential of a synthetic compound that can be added to the diet of chickens to promote their growth. Corporate sponsor is Shur-Gain.

■ "Genetic Modification of Soybean Oil" (\$90,000), Prof. Jack Tanner, Crop Science. Tanner's goal is to genetically improve soybean oil and benefit the stability of one of Ontario's most important crops. Corporate sponsor is the Ontario Soybean Growers' Marketing Board. □

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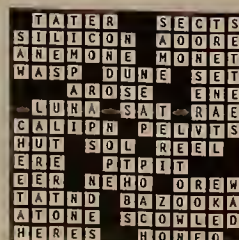
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# FORUM ON TEACHING AND LEARNING



Exploring the research-teaching connection are, from left, research vice-president Larry Milligan, students Heather Addy, Lori Jones and Tani Poehlman and Mei-fei Elrick of Teaching Support Services. Photo by Trina Koster, Office of Research

## Make research and teaching collaborative, not competitive

by Larry Milligan  
Vice-President, Research

University education is meant to offer a unique combination of research and teaching. Too often, however, the two are looked on as separate but equal activities on campus. Worse, sometimes they're seen as actually being in competition — especially regarding the question of how much time should be devoted to each.

I recently had the opportunity to voice some of my concerns about the causes and effects of a lack of cohesion between university teaching and research to a group of graduate students and postdoctoral fellows. They were participants in a course called "University Teaching: Theory and Practice" (UTTP), which is aimed primarily at graduate students considering a career in higher education.

I addressed the class — via video — and expressed some of my ideas about the directions we can take to ensure that research and teaching don't become mutually exclusive.

One of the things I stressed was my conviction that by involving students in research, we foster a culture of problem solvers — graduates who have the skills of inquiry that employers increasingly demand in the workplace. I firmly believe that by developing a stronger connection between researchers and students, we improve the learning process and the quality of the graduates we produce.

The challenge is to find ways of implementing such a collaborative system. The students

I spoke to took up that challenge and made it the subject of an innovative project. The class split into groups, discussed the issue and developed hypothetical course outlines for classes that would link research and teaching.

The ways the students approached the assignment were sometimes light-hearted, but their suggestions were serious and thoughtful. Most important, they recognized that research can play a bigger role in the learning process. Here are some of their ideas:

- Have the course instructor introduce a "real world" problem or controversy for research by the class. This would allow the students to problem solve, while demonstrating that the curriculum is relevant.
- Divide the class into groups and have each research one aspect of a wide-ranging topic. Each group would present its findings to the entire class, and all would take part in a discussion applying those results to the larger issue.
- Demonstrate lab experiments before explaining them, rather than after. In the spirit of problem solving, let the students try to work out the scientific concepts involved. This is just a sample of the innovative concepts that can emerge when teaching engages students in tackling a problem. It's up to the entire University to follow the same initiative as the UTTP class and work to ensure that the link between research and teaching strengthens and remains strong.

Reprinted from *Research*.

## Get off to good start at first class

U of G has adopted first class meetings to give faculty and students time to complete administrative details such as distributing and discussing the course outline and organizing labs and seminars. Equally important, the meetings give faculty a chance to give an overview of their course and get acquainted with students.

What's the best way to structure those 50 minutes? Students say the meetings are most helpful when faculty give them a sense of the total course, the contribution the course makes to a program, which learning objectives the course emphasizes and what important questions in the discipline the course addresses.

Students also want to know about their professors' interest in a particular course and discipline — how they got into the field, what keeps them there and what area of scholarship intrigues them.

The students also need to start getting to know each other. The professor could ask them to talk to someone sitting next to them

about why they took the course. If they write a few ideas down and hand them in at the end of the period, the professor can get a sense of their expectations.

The course outline can be used to explain the way the course is structured. Although faculty cringe when students ask: "Will that be on the exam?" it's important for the students to know how they will be evaluated. This is a good time for professors to begin explaining their standards for the course. Research indicates that if students are aware of their professor's standards, they will try to meet them.

Students are disheartened if a faculty member distributes the course outline, asks if there are any questions, then dismisses the class after 20 minutes.

The first class meeting leaves an impression on students. They believe they can tell in that first encounter if the professor is well prepared and approachable, has a sense of humor, enjoys teaching and is comfortable with students and the course. □

## Overcoming ethical shyness

by Mei-fei Elrick  
Teaching Support Services

A parents' group tried to get Mark Twain's *Huckleberry Finn* removed from the Grade 10 reading list, citing its negative portrayal of blacks and its use of the word "nigger." Parents' groups have launched similar efforts against Shakespeare's *The Taming of the Shrew* for its negative portrayal of women and *The Merchant of Venice* for its negative portrayal of Jews.

In the late 1980s, University of Western Ontario professor Philippe Rushton stirred up enormous political and academic controversy when he presented a paper at the American Academy for the Advancement of Science linking IQ and race. David Peterson, Ontario premier at the time, called for an investigation into Rushton's university appointment.

In March 1994, the Yukon government announced a wolf kill as part of an "experiment" to increase moose populations. When questioned about the wolf kill, the minister involved was close-lipped, refused to answer questions on the design of the experiment and never released a tally of the number of wolves actually removed from the population.

Faced with increasing competition from the Japanese and the Germans in the subcompact market in the late 1960s, a U.S. automobile company sped up the normal design time for one of its models. Preliminary crash tests showed problems with the fuel tank in rear-end collisions. The company did a cost-benefit analysis and decided it would be cheaper to pay damages and court costs to victims of accidents than it would be to retool, so it went ahead with the original design. In the 1970s, 50 lawsuits were brought against the company related to rear-end collisions in the car. In 1979, the company was charged with criminal homicide in the deaths of three teenagers.

Suppose you're teaching a course in wildlife management, business law, psychological measurement or literature and society, and a case such as one of these arises. Your students are eager to discuss the issue, but it quickly becomes apparent that class opinion is polarized. The discussion becomes heated, and tempers are beginning to flare. What do you do?

Many instructors dread situations like this and may consciously try to avoid them. They may tell their students that everyone is entitled to their opinion. Perhaps they say that ethics is just a matter of emotion, and in this course, they want to stick to scientific or objective arguments. Or maybe they tell their students that if they're really interested in such questions, they should take a philosophy course.

Over the last year, the Ethics Discussion Group has met to discuss ways of managing ethical issues that arise in the classroom. Group members are Prof. Harold Chapman, Biomedical Sciences; Prof. Ann Clark, Crop Science; Mei-fei Elrick, Teaching Support Services (TSS); Prof. Bill Hughes, Philosophy; Prof. Frank Humik, Animal and Poultry Science; Prof. Hugh Lehman, Philosophy; Prof. Sandy Middleton, Zoology; Prof. John Phillips, Molecular Biology and Genetics; Prof. Karen Wendling, Philosophy; and Prof. Janet Wood, Microbiology.

The group's goal is to come up with methods that faculty can use to handle ethical issues raised by students and to look at ways that faculty themselves can

raise ethical issues as part of the course material.

But whose responsibility is ethics? Universities compartmentalize knowledge into colleges, departments, disciplines and subdisciplines. They're paid to be experts in their particular areas, not to be Renaissance men or women. Yet U of G's much-vaunted list of learning objectives includes "moral maturity." According to the undergraduate calendar, "attainment of this objective is probably best realized by appropriate consideration of moral issues in context, as they arise in the course of study. In this way, a moral perspective may be shown to be inherently important to study of a body of material and not merely something supplementary to it."

Despite efforts to avoid them, ethical issues keep cropping up. Students come to class with interests in the environment, animal welfare, social justice and other "hot" issues. Chances are good they'll encounter ethical issues as citizens or in their professional lives because most of the world is not as compartmentalized as a university.

In addition, professors have moral responsibilities as citizens. They shouldn't abrogate these by ignoring ethical issues that arise in scientific, professional or other courses. Part of a professor's job involves preparing students for the world of work. If this task is taken seriously, perhaps faculty should devote a portion of their classes to discussing some ethical issues that arise in their disciplines.

Of course, some would say that nothing rational or objective can be said about ethical issues; ethics is simply a matter of taste. But no one really believes that. Most of us think of ourselves as being at least decent people. We raise our children to behave well towards others. We're heartened by signs of peace in war-torn countries. We feel outrage at human-rights abuses. We feel saddened when we hear about vicious crimes. We protest arbitrary decisions by officials. None of these moral feelings makes any sense unless we acknowledge that something underlies ethical claims.

What's the role of university education in learning ethics? Academic courses don't affect basic character traits; studying ethics won't turn a scoundrel into a saint. But that doesn't mean academic work is irrelevant to a student's moral development.

Ethical issues are complex. Rational resolution of ethical issues requires sensitivity to a range of details, plus a basic understanding of ethical principles and arguments. Academic courses in all disciplines can contribute fruitfully to sensitivity towards and understanding of ethical issues that arise in different contexts.

Some faculty may be interested in the ethical issues that arise in their discipline but don't know how to discuss them in class. They worry about what to do if the class turns ugly and how to prevent discussion from degenerating into personal attacks. As a result, they may avoid contentious issues in class.

We call this "ethical shyness," and it's analogous to math anxiety in some ways. Both prevent people from learning about a whole range of issues and participating fully in socially important debates.

But ethical shyness can be overcome. To help explain how, the Ethics Discussion Group and TSS are sponsoring a workshop called "Encouraging Ethical Discussion in the Classroom" Jan. 31. It runs from noon to 2 p.m. in Room 141 of the Animal Science and Nutrition Building. To register, call Helen Martin at Ext. 2973. □



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## GRADUATE NEWS

The final examination of Wayne Snedden, a PhD candidate in the Department of Horticultural Science, is Jan. 12 at 1:30 p.m. in Room 3301 of Graham Hall. The thesis is "Regulation of Plant Glutamate Decarboxylase by Calcium/Calmodulin." The adviser is Prof. Barry Shelp.

The final oral examination of PhD candidate Margaret Jean Beaton, Zoology, is Jan. 16. The

lecture is at 9 a.m. in Room 265A of the Axelrod Building, followed by the examination in Room 168. The thesis is "Patterns of Endopolyploidy and Genome Evolution in *Daphnia*." Her adviser is Prof. Paul Hebert.

The final oral examination of Dongfang Yang, a PhD candidate in the Department of Chemistry and Biochemistry, is Jan. 16 at 9:10 a.m. in Room 222 of the MacNaughton Building. The thesis is "Adsorption of Organic Molecules at the Gold-Solution Interface." The adviser is Prof. Jack Lipkowski.

The final examination of Xiuming Hao, a PhD candidate in the Department of Horticultural Science, is Jan. 16 at 10 a.m. in Room 3301 of Graham Hall. The thesis is "The Effects of CO<sub>2</sub>, Ozone, UV-B Radiation and Their Interactions on Tomato (*Lycopersicon Esculentum* Mill. cv New Yorker). His advisers are Profs. Bev Hale and Doug Ommrod.

The final oral examination of PhD candidate Christopher Wilson, Zoology, is Jan. 16. The lecture is at 1 p.m. in Room 259 of the Axelrod Building, followed by the defence in Room 168. The

thesis is "Phylogeography and Postglacial Dispersal of Two North American *Salvelinus* Species." His adviser is Prof. Paul Hebert.

The final examination of Tess Dawber, an M.Sc. candidate in the division of family relations and human development in the Department of Family Studies, is Jan. 18 at 1 p.m. in the Marriage and Family Therapy Centre. The thesis is "The Question of Ownership: Parent-Child Interactions in the Context of the Relationship." The adviser is Prof. Leon Kuczynski.

The final examination of PhD candidate Lucie Tuin, Horticultural Science, is Jan. 20 at 1 p.m. in Room 3301 of Graham Hall. The thesis is "In Situ Glutamate Metabolism by Developing Cotyledons of *Glycine Max* (L.) Merrill." Her adviser is Prof. Barry Shelp.

The final examination of PhD candidate Jean Rawling, Nutritional Sciences, is Jan. 23 at 1:10 p.m. in Room 002 of the Animal Science and Nutrition Building. The thesis is "The Effect of Niacin Status on In Vivo Poly(ADP-Ribose) Metabolism." Her adviser is Prof. Jim Kirkland.

## Winter library hours

During the winter semester, the U of G Library will operate under the following schedule.

The McLaughlin Library and the Veterinary Science Section will both be open from 8:30 a.m. to midnight Monday to Fri-

day and from 10 a.m. to midnight on weekends and holidays. This schedule continues until May 2.

For reference service hours throughout the semester, call Ext. 3617. □

## JOBS

As of At Guelph deadline Jan. 6, the following opportunities were available:

**Radiology Technician, Veterinary Teaching Hospital**, temporary leave from Feb. 20 to Sept. 25. Salary: \$15.70 to \$18.59 an hour.

**Senior Adviser, Employee Relations**, contractually limited appointment for about six months with possibility of renewal. Salary: \$38,761 to \$45,544. Removal date: Jan. 13.

The following were available to on-campus employees only:

**Systems Clerk, Hospitality/Retail Services**, eight-month continuing limited-term appointment. Salary: \$11.90 minimum, \$14.88 job rate, \$17.86 maximum.

**Executive Secretary, Dean's Of-**

**fice, College of Arts**. Salary: \$13.81 minimum, \$17.26 job rate, \$20.72 maximum.

**Carpenter, Construction/Maintenance**. Salary: \$17.49 job rate, probation rate \$17.29. Removal date: Jan. 13.

**Spray Painter/Lead Hand, Construction/Maintenance**. Salary: \$18.07 probation rate, \$18.37 job rate. Removal date: Jan. 13.

**Custodian 3, Housekeeping**. Salary: \$13.70 job rate, probation rate \$13.50. Removal date: Jan. 13.

It is the University's policy to give prior consideration to on-campus applicants. To determine the availability of University employment opportunities, visit Client Services on Level 5 of the University Centre or call 636-4900. □

## PEOPLE

The U of G Library will stage a reception Jan. 18 in honor of Flora Francis, who is retiring from the library after 35 years. It runs from 4 to 6 p.m. in the Eccles Centre. Guest speaker/storyteller is Rita Cox.

The Department of Land Resource Science will hold a reception Jan. 20 to honor Norbert Baumgartner, Pat Beirnes, Earl Gagnon, Dirk Tel and Les Thomas for their years of service. The reception runs from 7:30 to 11 p.m. at the Arboretum Centre. Cost is \$15. RSVP by Jan. 16 to Denise Brenner at Ext. 6364. □

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## FOR SALE

Two tickets for Michael Burgess, Feb. 11, excellent seats, Lou Ann, Ext. 3956.

Skler hide-a-bed chesterfield, perfect condition; single bedroom suite, mattress, boxspring, frame, armoire, nightstand and dresser with mirror; Kenmore stove, Ext. 2070 or 823-1521.

Fortress Scientific deluxe power wheelchair, like new, 18-inch seat, full recline, complete with charger, Roger, 824-0903 between 10:30 a.m. and 3 p.m.

Conestoga woodstove, 763-8287 after 6 p.m.

## FOR RENT

Two rooms in large house, appliances, laundry, parking, 15-minute walk to campus and downtown, on bus route, available now, \$275 a month plus utilities, James or Chris, 766-4013.

Two-bedroom apartment to share, near downtown, on bus route, laundry, parking, female only, non-smoker, no pets, \$340 a month, Jackie, 821-1610.

Furnished one-bedroom basement apartment, private entrance, \$540 a month includes heat, hydro and cable, laundry, parking, non-smoker, perfect for single person, 763-6556 or Paul at 836-2050.

## WANTED

Fully detached house in Guelph for professional couple to rent, beginning May 1, Dave, 519-474-0496 or e-mail to tho160@lawlab.law.uwo.ca.

Responsible university graduate seeking bachelor apartment or single room, close to downtown, for Feb. 1, John, 822-2470.

Classifieds is a free service available to staff, faculty, students and alumni of the University. Items must be submitted in writing by Wednesday at noon to Linda Graham on Level 4 of the University Centre or fax to 824-7962. For more information, call Ext. 6581.

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## NOTICES

### Come to the cabaret

The spotlight is on love and music Feb. 4 when the Guelph Chamber Music Society holds its annual fund-raising Valentine Cabaret at the College Inn. The evening features a mixed bag of music from madrigals to a '60s medley, offered up by the Guelph Chamber Choir and friends, including Phoenix Jazz. The cabaret begins at 7:30 p.m. Tickets are \$25 and are available at the UC box office. Book a table of eight and one ticket is free.

### Standardbred seminar

The Equine Research Centre presents its second annual seminar on health-management techniques for standardbred horses Feb. 11 from 9:30 a.m. to 4 p.m. at the Royal Canadian Legion in Guelph. Cost is \$59. To register or for more information, call the Equine Research Centre at 837-0061.

### Owl prowl

Arboretum naturalist Chris Earley leads an indoor introduction to the behavior and adaptations of owls, followed by a walk outdoors, Feb. 3 and 4 at 7 p.m. at the J.C. Taylor Nature Centre. Cost of each session is \$9 for adults, \$4.50 for children, \$25 for a family of four. Register by Jan. 27 at Ext. 4110.

### Lecture series set

Third Age Learning-Guelph, a non-profit organization that offers lectures for active retirees, enters its 15th season this winter with a morning series called "A Potpourri of Interesting Topics" and an afternoon series called "Art and Music Surround Us." Both begin Jan. 11

at the Arboretum and run for eight Wednesdays. Cost of each series is \$18. To register, call Mary Maxwell at 822-8622.

### Land tenure talks

The University of Wisconsin Land Tenure Centre's North American Program will sponsor a conference on "Who Owns America? Land and Resource Tenure Issues in a Changing Environment" June 21 to 24 in Madison, Wisconsin. Proposals for papers, round-table discussions and posters are due March 1. For more information, call Lisa Williamson at 608-262-3658, fax 608-262-2141, or e-mail program.chair.Gene.Summers at summer@soc.ssc.wisc.edu.

### Ecosystem series

The Tri-Council Eco-Research Chair in Ecosystem Health is sponsoring a monthly seminar series on "Indicators of Ecosystem Health." The series kicks off Jan. 18 with chairholder Prof. David Rapport discussing "Two Decades of Working Experience with Ecosystem Health Indicators." The talk begins at 4 p.m. in Room 109 of Blackwood Hall.

### Robbie Burns ceilidh

Guelph Museums will stage a ceilidh at the Guelph Civic Museum Jan. 22 from 1:30 p.m. to 4 p.m. It will feature Scottish music and entertainment by "Gi'e Us a Break" and Mary Ellen Cann's School of Highland Dance. Admission is free. On Jan. 25, the birth of Scottish bard Robbie Burns will be celebrated at MacCrae House with a tea beginning at 2 p.m. Cost is \$5. For reservations, call 836-1221.

### Learn about CUCHID

For anyone interested in international community development, Prof. David Walther-Toews, Population Medicine, will explain the role of the Canadian University Consortium for Health in Development Jan. 20 at 1:30 p.m. in Room 1713 of the OVC Learning Centre.

## WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thornbrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

Rozanne Crocker discusses "Growing up Black in Canada: One Woman's Journey" Jan. 15 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road.

### UC Presents

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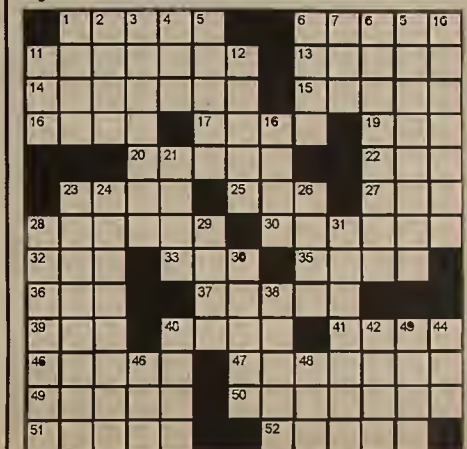
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### ACROSS

1. Spud
6. Religious denominations
11. Nonmetallic element
13. Be smitten with
14. Windflower
15. French painter
16. Stinging creature
17. Mojave sandbank
19. Tennis series
20. Came into being
22. Compass point
23. Silver in alchemy
25. Precedes Sun.
27. Scottish explorer
28. Muhammad's successor
30. Hip bone
32. Shanty
33. Fifth note
35. Tum about
36. Sooner than
37. Singing bird
39. Auction ending
40. Fictional captain
41. Attracted
45. Arawakan language
47. Rocket launcher
49. Make amends

### DOWN

50. Wore a frown
51. Start of a toast
52. Sharpened
21. Knocks sweet bay
24. More remote
26. Actress Garr
28. Fastest land animal
29. Crosby co-star
31. Disappointment
34. Arms and legs
38. Take game illegally
40. Words of denial
42. Thespian part
43. Increased
44. Mass of gum
46. Compass point
48. Menagerie

**For crossword  
solution, see page 4.**

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## Environmental institute names Heathcote director

Prof. Isobel Heathcote, School of Engineering, became the new director of the Institute for Environmental Policy (IEP) Jan. 1.

Heathcote, a faculty member at U of G since 1991, will be partially seconded for the part-time position, says Prof. Michael Moss, associate dean of the Faculty of Environmental Sciences.

Formerly the Institute for Envi-

ronmental Policy and Stewardship located at the Arboretum, IEP is now based in the Faculty of Environmental Sciences in the Latonnell wing of Blackwood Hall. It will be more closely related to environmental policy research on campus and will particularly be involved in developing this theme in academic programs, says Moss. □

## Wanted: Nominees for 1994 OCUFA awards

The Ontario Confederation of University Faculty Associations (OCUFA) is seeking nominations for its 1994 teaching and academic librarianship awards. About 10 awards are presented each year.

Submissions must include a covering nomination form, a nominator's brief and evidence from as many sources as possible to sub-

stantiate the excellence of the nominee. They must be sent by March 19 to the OCUFA Teaching and Academic Librarianship Awards Committee, 27 Carlton St., Suite 400, Toronto M5B 1L2. Nomination forms are available from the U of G Faculty Association or from OCUFA at 416-979-2117. □

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## CCS offers free seminars

Computing and Communications Services is again offering free seminars on information technology topics this semester for members of the University community. The series is presented in collaboration with Teaching Support Services and the U of G Library. Seminars last about two hours, and most are held in Room 203 of CCS, located just off Trent Lane. Registration begins Jan. 16. Space is limited, so register early by calling Ext. 3713 or visiting CCS weekdays between 9 a.m. and 4 p.m. Descriptions of the seminars will be available Jan. 12 at CCS and on GRIFP.

Most seminars are hands-on. ++ indicates that an active central computer account is required. +++ indicates that an active central computer ID and Unix fundamentals seminar (or equivalent experience) are required.

Title	Date	Time	Code
<b>Intro to Unix Fundamentals</b> (two parts)++	Jan. 23, 25 Jan. 24, 26 Jan. 31, Feb. 1	10 a.m. 2 p.m. 6 p.m.	unix01 unix02 unix03
<b>Intro to SAS</b> (four parts) +++	Feb. 6 to 9 Feb. 13 to 17	6 p.m. 10 a.m.	sas001 sas002
<b>Intro to SPSS</b> (two parts) +++	Feb. 9, 101	10 a.m.	spss01
<b>Intro to Windows</b>	Jan. 25 Jan. 26 Feb. 8	2 p.m. 6 p.m. 10 a.m.	wind01 wind02 wind03
<b>Intro to DOS &amp; Hard Disks</b> <b>Intermediate Quattro Pro</b>	Jan. 27 Feb. 15 Feb. 16	10 a.m. 6 p.m. 10 a.m.	doshd1 qpro11 qpro12
<b>Intro to Pegasus Mail</b>	Jan. 26 Jan. 31	10 a.m. 2 p.m.	pmail1 pmail2
<b>NEW Advanced Pegasus Mail</b>	Feb. 1	2 p.m.	pmail1
<b>Intro to E-Mail ++</b>	Jan. 23 Jan. 24 Jan. 30	2 p.m. 6 p.m. 2 p.m.	email1 email2 email3
<b>Navigating the Internet</b> (three parts) ++	Feb. 6 (one hour) & Feb. 7, 8 Feb. 13 (one hour) & Feb. 14, 16 Feb. 20 (one hour) & Feb. 22, 24	2 p.m. 6 p.m.	navi01 navi02
<b>CoSy Computer Conferencing ++</b>	Jan. 30 Feb. 2	10 a.m. 6 p.m.	navi03 cosy01
<b>Accessing Library and</b> <b>Off-Site Databases</b>	Feb. 2 Feb. 15	2 p.m. 2 p.m.	cosy02 libdb1
<b>NEW Intro to WP6.1 for Windows</b>	Feb. 22	2 p.m.	libdb2
<b>NEW Intro to Quattro Pro for Windows</b>	Feb. 23 Feb. 21 Feb. 23	2 p.m. 10 a.m. 10 a.m.	wp6.11 wp6.12 qprw01 qprw02

### Absolute beginner labs (for those with no previous experience)

<b>WP for DOS Level 1</b>	Jan. 23 Jan. 25	4:30-5:45 p.m. 4:30-5:45 p.m.	abwp01 abwp02
<b>"My First 45 Minutes on a Computer"</b> <b>QuattroPro</b>	Jan. 24 Jan. 26 Jan. 30	10-11:15 a.m. 4:30-5:45 p.m. 4:30-5:45 p.m.	abcom1 abqpr1 abqpr2
<b>WP for DOS Level 2</b>	Feb. 1 Jan. 31 Feb. 2	4:30-5:45 p.m. 4:30-5:45 p.m. 4:30-5:45 p.m.	abqpr3 abwp11 abwp12

## Nominations sought for alumni awards

The U of G Alumni Association is seeking nominations for its annual awards to be presented during spring convocation and Alumni Weekend 1994.

The Alumni Medal of Achievement goes to a graduate of the last 15 years for contributions to country, community, profession or the world of arts and letters.

The UGAA will recognize an Alumnus of Honor for significant contributions to community service, science, education, business, industry, the arts or alumni affairs.

The Alumni Volunteer Award will be presented to a graduate who has demonstrated loyalty and commitment to U of G through

volunteer work. It will be awarded during the annual volunteer week in April.

To obtain nomination forms for these awards, call Richard Vollans in Alumni House at Ext. 6657. The deadline for nominations is Feb. 10.

In addition, the OVC Alumni Association invites nominations for its Distinguished Alumnus Award. This award recognizes a graduate who has brought honor to the college and fellow alumni through leadership and service to country, science, education, profession or alma mater. Send nominations via Vollans by April 29. HAFA will present its George

Bedell Award of Excellence next spring to a graduate who best represents the school in terms of professionalism, achievements and contributions to the hospitality industry.

Nominators should send their name, home and business telephone numbers and name of the nominee to the George Bedell Award Committee c/o Vollans by Feb. 10. □

## We'd like to hear from you!

Members of the campus community are invited to submit opinion pieces about University life and issues for possible publication in the "Commentary" section of *At Guelph*.

Contribution pieces should be limited to 1,200 words and submitted on disk or by electronic mail. They will be published with a byline.

Call Ext. 3864 for further details. □

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## FIRST GLANCE

### Senate agendas on GRIFF

The agendas for Senate and Senate committee meetings are being placed on GRIFF to keep the University community better informed about Senate activities and to encourage more participation in discussion of academic issues.

Although Senate and its committees are open to visitors and always accommodate anyone wishing to speak to an issue, few people take advantage of this opportunity, says Senate secretary Brenda Whiteside. "Part of the problem may be that we have not been very effective in publicizing the activities of Senate or its committees until after a decision has been made," she says.

Senate meets on the third Tuesday of every month at 6:30 p.m. in Room 149 of the MacNaughton Building and will also be holding special meetings to discuss the draft strategic-planning document. All members of the University community are welcome to attend these meetings, says Whiteside, but they must inform the Senate Office if they want to attend or wish to have speaking privileges.

The Executive Committee welcomes other suggestions for communicating with the University community, she says.

## Inside:

- New office helps ease first-year transition . . . 3
- Parks Canada signs five-year agreement for research, education . . . 3
- History departments collaborate on campus conference . . . . . 4

### Thought for the week

*Only those who dare to fail  
greatly can ever achieve  
greatly.*

Robert F. Kennedy



### Things are cookin' at Creelman

The open-market concept behind the Creelman Hall eatery is generating lots of attention. Above, Hospitality/Retail Services director Garry Round displays the U.S. magazine *Food Service Equip-*

*ment and Supplies International*, which featured Creelman Hall on the cover of its Sept. 30, 1994, issue. See story on page 3.

Photo by Kerith Waddington, University Communications

## Committee suggests councils to co-ordinate activities

U of G should establish councils to co-ordinate interdisciplinary and interdepartmental activities on campus and develop a mechanism to flow resources to these activities.

That's one of the recommendations of the Academic-Planning Committee (APC), whose report is published in full in this week's *At Guelph*. The committee also recommends against reorganizing the colleges, at least until certain departments with overlapping mandates are reviewed to determine if merger or reorganization is needed.

APC places primary responsibility for managing undergraduate programs with program committees, as mandated by Senate, and recommends that program committee members be appointed primarily to direct the program rather than act as departmental representatives, as is often the case at present.

The committee proposes a set of criteria for introducing or continuing specializations and courses, arguing that Senate should not introduce new specializations without explicit identification of the resources required.

The committee, chaired by Prof. Nigel Bunce, was one of 11 committees established in July by the Strategic-Planning Commission (SPC) to study issues such as resource allocation, terms of appointment, the learner-centred environment, the relationship between teaching and research, and alumni involvement.

Input from the community shaped the final report in a major way, says Bunce. The committee met with groups of faculty, attended open meetings and responded to more than 100 written submissions after the progress reports were published.

"The final report is a very different kind of document than the progress reports because of the consultation process," he says. The

## Lobbying, day of action focus on federal, provincial funding proposals

by Sandra Webster  
University Communications

**A**cademic administrators and students and individuals connected with U of G are articulating their concerns about proposals contained in reviews by two levels of government that are putting pressure on universities to change.

At the federal level, the focus is on Human Resources Minister Lloyd Axworthy's discussion paper on social-security reform and Industry Minister John Manley's proposed new science and technology strategy. Provincially, it's on the Ontario Council on University Affairs (OCUA) proposal to change how the province allocates funding to universities. Recently, the OCUA report was delayed to await events at the federal level.

Universities are concerned that if the OCUA ideas are implemented, these changes would reduce their autonomy and radically

change the funding mechanism. Similarly, the federal proposals threaten to cut research support and, as a consequence, drastically increase tuition fees.

The road to change is full of uncertainties. For one, universities cautiously await next month's federal budget, which is expected to indicate whether Ottawa will adopt some of the social-program reforms contained in the Axworthy discussion paper.

Although the paper contains some interesting proposals supporting international mobility and internship, among others, the most controversial reforms are proposals to eliminate cash transfers to the provinces for higher education in favor of a new student-loan program and consequently to stimulate an increase in tuition fees.

University administrators are also keeping a close watch on the provincial political scene. An election this spring is expected to have an impact on the future of

provincial grants and tuition-fee policy.

Guelph began an extensive lobbying effort in December in the form of a letter-writing campaign and meetings with officials at both levels of government to state the case for universities and their role in Canadian society, for the importance of university research to the country's industry and economy, and for accessibility and affordability.

President Mordechai Rozanski corresponded with the prime minister's office on the impact of social-policy reform on university funding and research; with Minister of Finance Paul Martin, Manley and MP Ian Murray on university research issues; and with André Ouellet, minister of foreign affairs, on the impact of proposed changes on international education.

Research vice-president Larry Milligan and OAC dean Rob

See *STUDENT* on page 2

See *SPC* on page 2



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by David Wainwright  
Guelph Courier

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# Student government plans day of action Jan. 25

Continued from page 1

McLaughlin wrote to Manley and Jon Gerrard, secretary of state for science, research and development, about university research. They have also enlisted the support of leaders in the agri-food industry and producer groups, including Semex, J.M. Schneider, DowElanco and Corporate Food, to write letters.

Rozanski has met with Guelph MP Brenda Chamberlain on the social-security review and its impact on universities and with Gerrard on research and university issues. He also met with Axworthy, together with U of G's Council of Ontario Universities colleague, Prof. Carlton Gyles, and other COU participants.

Additional meetings in support of maintaining appropriate funding were held with Association of Universities and Colleges in Canada (AUCC) president Claude LaJeunesse on the social-security review and with Ontario Minister of Education and Training Dave Cooke on OCUA's funding proposals. Milligan has met with Chamberlain and Gerrard on research funding concerns.

## GSA plans MP meeting

The Graduate Students' Association has organized a "Meet with Your MP" day Jan. 27 from 11:45 a.m. to 12:30 p.m. in Room 103 of the University Centre. Chamberlain will be on campus to hear opinions on the proposed social-security reforms.

The meeting is open to everyone, says organizer Elaine Power, a graduate student in the Department of Family Studies. For more details, call her at Ext. 4334.

## Day of action

The Central Student Association (CSA) is organizing a "day of action" Jan. 25 in conjunction with the Canadian Federation of Students' national strike that day on the social-security review process.

The CSA is planning a morning demonstration on campus and will then transport students, faculty and administrators to a rally and demonstration in Toronto's Nathan Phillips Square at 3:30 p.m.

In a letter to faculty last week, Rozanski requested that they keep Jan. 25 free of tests and assignments and grant consideration to students who may wish to miss classes to attend the events. No classes will be cancelled, however.

"Day of Action" organizer Kim Emmerson, CSA external commissioner, says federal funding cutbacks to postsecondary education — part of the Axworthy review — could see some \$2.6 billion of the \$6.1 billion it annually transfers to the provinces for such purposes converted into repayable student loans paid directly to students. This would reduce student access to university and the quality of education available, says Emmerson.

"Tuition fees could become prohibitive as universities are forced to take up the slack created by cutbacks," she says. "And as funding dwindles for research and development, educational quality would also be compromised."

Easier access to student loans — and an income-contingent repayment plan — would not increase the availability of higher education if tuition fees skyrocketed, says Emmerson. She adds that the costs of accommodation, food and books would be difficult to cover after tuition is paid.

## Panel discussion

Prof. Donna Lero, Family Studies, is planning an evening panel discussion to explore the various aspects of the proposals contained in the social-security review. Departments across campus will be involved in the event, she says. Details will be published in an upcoming *At Guelph*.

## Supports AUCC

In a recent interview with *At Guelph*, Rozanski said universities fully recognize the province's and the country's economic difficulties and that there will have to be adjustments in Canadian government spending. "And universities do not expect to escape the impact of these restraints," he added. Indeed, U of G has already initiated steps such as the special early retirement program.

But the president expressed concern at the magnitude of change proposed by the federal government. Student accessibility, university teaching and university research infrastructure are the most vulnerable to cutbacks if transfer payments are reduced by the more than \$2 billion proposed, he said.

"I hope that the federal government, after reflecting on the constructive advice it is receiving from various groups, will work to avoid disproportionate cuts to university operating support and research infrastructure," he said.

"The absence of this support would undermine the quality of teaching and the internationally recognized research successes our faculty have attained. A continued federal role in higher education is essential to our success in a knowledge-based society."

Universities also continue to be concerned that university research will suffer a double impact if rumors are true about reductions in support from federal granting councils and the various research-active federal departments that have co-operative agreements with universities.

The effect would be adverse for the Natural Sciences and Engineering Research Council and particularly the Social Sciences and Humanities Research Council, given its small budget relative to other councils, said the president.

Rozanski supports an AUCC plan as an alternative to Axworthy's proposals. AUCC's alternative would involve a federal investment of about \$1.4 billion to \$1.5 billion in postsecondary education a year. This is less than the provinces now receive, but more than would be available under the Axworthy plan.

The AUCC proposal has three elements:

- an income-contingent tuition-repayment assistance plan that would be half the size of the one proposed by Axworthy, tied to a mix of grants and scholarships and loans. The AUCC plan would see the government providing \$1 billion in loans at an estimated cost of about \$250 million to \$350 million a year;
- support for university research infrastructure of \$500 million a year; and,
- continued provision of some federal operating support to provincial governments — about \$500 million a year — to ensure that new funding arrangements don't hurt some provinces more than others.

Under the AUCC plan, tuition might also increase, but gradually and in significantly smaller amounts than might be necessary if the federal plans are fully and precipitously implemented and if the province agrees to a further increase — something that is a question mark in the present political context, says Rozanski.

"Indeed, the AUCC plan calls for gradual phase-in of the changes in the EPF transfer cuts and allows universities and students to plan for the future," he says. "AUCC says this is a more realistic approach with a less dramatic impact on accessibility, enrolment and student debt loads."

**Work together**

On Jan. 12, Cooke hosted a discussion on social-security reform with representatives of Ontario's postsecondary education and training community. In a press release following the meeting, he said that should students have to make up for the shortfall in federal funding, Ontario estimates that tuition fees would increase by 105 percent and the closing of institutions would have to be considered.

Cooke wrote Axworthy in December to outline the province's concerns about the federal proposals. In the letter, Cooke indicated that Ontario would not be able to make up the revenue shortfall. He called on the postsecondary community to work with the province to respond to these cuts, and he plans to hold further meetings with this group to discuss other aspects of the proposed federal reforms.

Rozanski said he hopes Ottawa will listen to the views of the province, faculty, staff, students, alumni and friends and be open to a constructive resolution of the problems involved. □

## SPC report due in February

continued from page 1

report was also reviewed twice by SPC before being approved for release to the community.

It is left to SPC to evaluate the recommendations, reconcile them with input from other committees and determine timelines for implementing them.

This document is the last committee report to be submitted and is reproduced in full here because of the intense discussion generated by the committee's progress reports over the summer.

SPC chair Prof. Bev Kay says the commission is working on its interim report, which will be re-

leased in mid-February and will be followed by a month of intense consultation in the University community and among key constituencies outside. The interim report will bring together the work of all the SPC task forces and committees. A final report will go to the president in April.

Community comment on the APC report is welcome and should be directed to SPC through Kay because the committee has fulfilled its mandate and been disbanded. Kay can be reached through e-mail at bkay@lrs.uoguelph.ca, by fax at 824-5730 or at Ext. 2447. □

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# Final report of the Academic-Planning Committee

January 1995

## Introduction

The committee was established in early July 1994 with the following membership:

- Nigel Bunce (chair)
- Hugh Earl
- Lesley Isaacs
- Michael Keefer
- John Leatherland (who was unable to serve)
- Jack MacDonald
- Bryan McKersie
- Michael Moss
- Donna Woolcott

Numerous people acted as resource persons in the work of the committee. These included:

- Staff of the Office of Analysis and Planning, including Derek Jamieson, Cathy Beattie and Steve Gismond
- Lary Milligan
- Doug Ommrod
- Jim Mottin (Board of Undergraduate Studies)
- Fred Evers (Research Board)
- Brian Pettigrew and Pat Hoare (Student Environment Study Group)

The committee wishes to thank the above people most sincerely for all their help and the time given to assist the committee in its work.

### 1.1 The committee's mandate

(as given by the Strategic-Planning Commission (SPC))

(a) To identify important strategic directions and unifying themes for the University and to assess them from the following perspectives: opportunities in education (undergraduate, graduate, continuing) and research; administrative structures and facilities that would create opportunities for using human, physical and financial resources more efficiently.

(b) To assess the University's current structure involving departments, colleges, faculties, program committees and centres in relation to alternatives and the potential for reconfiguration. Objectives of the assessment should include:

- enhancing interdisciplinary teaching and research;
- enhancing the University's ability to renew and reform curricula; and
- increasing the efficiency in the use of resources.

(c) To develop and apply criteria for the continuation of specializations and courses and to identify the impact of terminating those not satisfying the criteria.

### 1.2 The committee's work

Meetings were held on a regular basis throughout the summer and into the fall. During the summer, it was difficult to get all members of the committee to a given meeting because of vacations. During the fall, weekly meetings have been held at which essentially all committee members have been present. The committee has attempted to work by consensus wherever possible.

The committee's original mandate called for a final report to be submitted to SPC by Aug. 31, 1994. It quickly became clear that this deadline could not be met and it was subsequently moved back, first to Oct. 31 and finally to Nov. 30.

The short timeframe of the committee's original mandate had a serious impact on the committee's mode of operation. The committee was determined to allow an opportunity for consultation with the community at large before this final report was drafted. For this reason, the committee undertook to release progress reports to the University, in which input from the community was sought. Two such progress reports were issued, dated Aug. 5, 1994, and Sept. 8, 1994.

Following the release of these reports, members of the committee met with a number of groups of faculty and participated in various open meetings. In addition, more than 100 individuals and groups submitted written responses to the committee.

The committee wishes to thank most sincerely all these individuals and groups for their time spent in replying to the committee; without their input and insight, this document could not be what it is.

The complete file of responses and our progress reports has been deposited in the library. We hope we have been able to capture the spirit of the ideas we have received and that this document will have value in planning as the University moves "Toward 2000."

With the benefit of hindsight, we would urge that in future planning exercises, the University allow sufficient time to obtain information from the community before even interim reports are disseminated.

This report was submitted to SPC in draft form Nov. 30, 1994, and its recommendations were debated by SPC at several meetings during December 1994. Following these discussions, the committee was asked to clarify and reconsider a number of points, and a revised

document was approved for release to the University community in general in January 1995.

### 1.3 Summary of major recommendations

This report contains a large number of recommendations, many of which are at a level of detail that is inappropriate to a summary. The key issues follow.

1. Four strategic directions for the University should be collaboration, learner centredness, internationalism and open learning. These were debated back and forth between the committee and SPC during the term of the Academic-Planning Committee (APC) and have been the subject of other SPC committees' reports. They are not presented here as formal recommendations because they have already been agreed on by SPC.

2. Interdisciplinary and interdepartmental activities should be co-ordinated through councils, on which the chairs of the collaborating departments should serve. The work of each council should be "facilitated" by a senior academic administrator. A resource-allocation model should be developed to allow resources to flow to interdisciplinary activities in a manner compatible with the flow of resources to departments.

3. A small number of departments whose mandates overlap should be reviewed to determine whether merger or other reorganization is needed. College reorganization should be deferred until any departmental reorganization has taken place.

4. A set of criteria has been proposed for the continuation or introduction of new programs (specializations) and courses. In particular, Senate should not have the authority to introduce new programs and courses without explicit identification of the resources needed to mount them.

A word is needed about matters that have not been considered in writing this report. First, the committee had neither the expertise nor the information to cost out its recommendations.

Second, an important part of the committee's package of recommendations requires a resource-allocation mechanism to be developed to promote interde-

partmental activity, a task given to another committee by SPC.

Third, and related to resource allocation, the committee has not undertaken any objective assessment of the quality of the departments (this was done by Working Group 1 in 1982, when comparative data for comparable departments across Canada were obtained; this task took up to one year to complete, however, and was not possible in the time available). Nevertheless, it seems inevitable that "quality" must somehow be a factor in any resource-allocation mechanism.

Fourth, the committee has considered most of its recommendations separately from the restaffing issues associated with the special early retirement program (SERP) for these reasons:

- a separate committee had already been established for this purpose; and
- the staffing needs brought about by SERP cannot be determined without a detailed consideration of "normal" as well as early retirements and a knowledge not only of losses, but also of which positions now vacant had been "overfilled" in the early 1990s by bridging to anticipated retirements.

Fifth, the committee has left it to SPC to determine the timelines for implementing the recommendations (although it is the view of committee members that most of these recommendations can be implemented right away).

Finally, there is the question of who will be responsible for ensuring that recommendations, once agreed on, are actually carried out. Once actions have been agreed on and deadlines for action set, rewards and sanctions will be required.

Given that the annual faculty review is based principally on teaching and scholarship, it is difficult to see what incentives and disincentives exist for doing a good (or bad) administrative job at running a council, a program committee, etc. This is especially true of the councils, which we propose will have responsibility for steering and recharting our course in interdisciplinary areas.

Yet without commitment on the part of those charged with implementing SPC's recommendations, it is clear that little will have been achieved by this whole exercise. Ultimately, the responsibility for acting as "watchdogs" will fall on very few shoulders — those of the president, vice-presidents, associate academic VP and, to some extent, the deans (although because the deans are themselves involved in chairing some of the councils and program committees, their role as watchdogs will necessarily be limited).



# Strategic directions for the University of Guelph

Item (a) of the committee's mandate reads as follows:

*"To identify important strategic directions and unifying themes for the University and to assess them from the following perspectives: opportunities in education (undergraduate, graduate, continuing) and research; administrative structures and facilities that would create opportunities for using human, physical and financial resources more efficiently."*

One year ago, President Mordechai Rozanski created the SPC to examine the mission and future direction of the University of Guelph. The goal was to develop a vision for the future, within the context of current budget realities.

The process was not initiated from a sense of despair or dissatisfaction with existing activities or programs. On the contrary, the University of Guelph is extraordinarily well situated in the Ontario system. The June 1993 report to Senate from the Academic Restructuring Committee described the situation as follows:

*"Although budgetary constraints have already put Guelph's academic programs and support structures under considerable pressure and will continue to do so, the University has improved its academic reputation significantly in recent years."*

*"The quality of the U of G's undergraduate body is now among the highest in Ontario and Canada. All of our graduate programs are ranked in the highest category by the Ontario Council on Graduate Studies, and our researchers continue to distinguish themselves in national and international competitions. Our faculty have also shown themselves to be among the country's best teachers, as demonstrated by our large number of 3M Teaching Fellows."*

Despite this record, the president recognized the need for comprehensive planning to meet the funding and educational challenges of the future. In particular, he noted in his charge to SPC that *"...the challenges we face cannot be met by tinkering and should not be met by across-the-board budget cuts, but must involve an active and comprehensive effort which considers the external environment, builds on strengths, reaffirms our commitment to academic quality and respects the values and culture of the University of Guelph."*

Strategic planning has already led to recommendations for important new initiatives for change, many of which have received widespread support. But the process has not been without controversy, much of it associated with APC's Aug. 5 progress report, which dealt, among other things, with strategic directions and possible changes to the department and college structure. A related issue — uniqueness — has also generated some differences of view.

APC recognized that its suggestions and recommendations might well be controversial, and there has indeed been substantial divergence of views on the content of the progress report. One of the major causes of controversy appears to be that many members of the community believe that a list of "strategic directions" must specifically include all those things that make us special and unique and that we will continue to do, come whatever, perhaps with special funding priority.

The committee fully supports the preferential allocation and application of resources to those areas and activities where they are needed to fulfil our mission, whether or not they are characterized as unique. But the committee believes there is much greater value in emphasizing common purposes and goals across the University than in developing a stratified institution composed of

units with different and proscribed centrality and priority. This is a road we have travelled before, and it leads only to division and dissent.

Another point of misunderstanding concerns the distinction made within the planning framework between incremental operational issues and major strategic issues, where intelligent choices must be made. The committee believes it is important that this matter be put to rest by our stating clearly "what kind of university we are at present and what kind of university we aspire to be," in the words of the OVC response to our progress report. This is the rationale for including a lengthy introduction to mandate item (a). It is also important for SPC's final report to address the issue of resources. Again, the importance of the issue is captured in the OVC response, which states:

*"Presumably, there are resource implications associated with being in an area identified as being part of a strategic direction. It is reasonable to expect that limited resources will be distributed preferentially to such areas."*

That these thoughts should be widely entertained is natural, but the University cannot permit the strategic-planning process to deteriorate into a jockeying for positions for diminishing resources. Having identified the activities we are to engage in, we must ensure that sufficient resources are allocated to achieve our goals. In a time of limited resources, this process will surely involve selective downsizing in combination with increased efficiency, an example being the greater use of open learning for delivering some of our courses.

## Strategic directions for the University

### Introduction

One can hardly set strategic directions for the University of Guelph without knowing what we have been and what we are now. From such an understanding, prospective change can be placed in context. The need for change, the desired effects of change and the unavoidable consequences of that change can be more readily recognized.

Unfortunately, in the current climate, the allocation of new resources to one activity implies that resources must be freed elsewhere for redistribution. It is this linking of the initiation of new activities with the diminution of existing ones that makes the process so difficult and demands a prudent and careful approach to avoid unnecessary apprehension.

### History

The University's initial attempt to define its mission and set out institutional priorities resulted in the 1972 report *The Aims and Objectives of the University of Guelph*, which recommended that the University:

*"maintain a primary focus on liberal undergraduate education of superior quality; in graduate studies, concentrate on areas in which it has special knowledge and expertise or can expect to make a unique contribution; in research, give particular attention to the problems man encounters and frequently himself creates in his continuing efforts to live in harmony with and as a part of nature; become more actively engaged in meeting the growing need for education throughout life; and continue its dedication to using its particular strengths to*

*wards international co-operation and understanding."*

This prescription guided the University's development for more than a decade, and we described ourselves in a 1984 submission from the University to the Bovey Commission in the following terms, in a section entitled "distinctive characteristics":

*"The University of Guelph is a medium-sized institution with a spectrum of broadly based programs, although it does not seek to offer programs in all major fields of knowledge. It has, however, matured and developed remarkably since its formation in 1964. With major programs in the core disciplines of arts and sciences, as well as in a limited number of professional programs, Guelph has become a major university. Included among the professional programs are the three on which the University was founded: agriculture, veterinary medicine, and family and consumer studies."*

*"The University of Guelph has had, and will continue to pursue, as a primary objective the maintenance and enhancement of quality in all of its programs and will strive for a climate in which each unit will aspire to academic excellence. We are committed to and depend upon the maintenance of distinguished and distinctive programs in the basic disciplines of the arts and sciences. These disciplines provide the base on which our other academic endeavors are built and, as an integral part of the University, have a unique role to play in the Ontario university system. There are, in addition, specific characteristics that uniquely characterize the University of Guelph."*

The document went on to characterize four categories of distinctive characteristics. The category of "special responsibilities" singled out agriculture and veterinary medicine as areas of special and continuing responsibility. The category of "special competence" included areas of activity concerned with the place and role of people in relation to their environment.

Some areas of competence were associated with, but not necessarily limited to, "some aspects of agriculture and veterinary medicine, a major part of the natural sciences, and disciplines which might be defined as applied biology, as well as aspects of the social sciences, pure and applied." The consequences of emphasis in these areas were enumerated, including our substantial commitment to research, our rural emphasis and our international development programs.

The third category, "quality of campus life," included our concern for high-quality teaching and our attention to the provision of an integrated teaching and maturing environment for our students. The fourth category, "the three-semester system," is self-evident.

In addition, the report noted potential areas of development and expansion, including biotechnology, toxicology, rural planning and development, gerontology and international development.

The character of the University of Guelph has continued to evolve, influenced by the impact of *Toward 2000* and subsequent events, right up to the creation of our recently proposed mission statement. *Toward 2000* did not recommend a radical shift in direction, but the relative emphases began to change. The major issues and recommendations of the 1985 aims document are well known to us.

In the area of undergraduate education, the learning objectives were developed and adopted. Our long-standing commitment to developing both the intellectual and personal growth of our students was reaffirmed. There was a call to

strengthen our involvement in graduate education and continue our strong research commitment, and there was a clear recognition of the inseparability of teaching and research.

*Toward 2000* challenged us to incorporate an international perspective in our work, to increase our interaction and co-operation with a variety of external communities (including other educational institutions), to encourage involvement by non-traditional students, to break down the barriers between disciplines and to develop programs for education throughout life. And the overarching commitment was to strive for excellence in all our activities and to sustain excellence when it is achieved.

Since 1985, we have made considerable progress in responding to the challenges of *Toward 2000*, yet much remains to be done, and the external environment continues to change rapidly. In many ways, our draft mission statement and strategic vision set a course for us that bears great similarity to the planning documents of the past two decades. Our focus on liberal education survives within the larger framework of learner centredness. The link between teaching and research is made even more explicit. We continue to recognize the importance of inculcating an international perspective in all we do. The need for collaboration has become even more obvious and urgent. Our pervasive educational philosophy of educating the whole person is as prominent as ever, and we continue to recognize the importance of providing education for life.

But there are important differences as well. Not only is the strategic vision more focused, but it also recognizes today's very different and evolving pressures of the external environment and it attempts to frame what must be done in this context in a direct and realistic way. It speaks vigorously and cogently for the need for change. But the questions, as always, are what is the nature of the change and in which of our multitude of activities must change occur?

### Definition of strategic directions

For the purposes of this document, we define strategic directions as those key issues to which we must pay greater attention if we are to realize our goals. Further, we distinguish between incremental operational issues — the continuance and betterment of most of what we currently do — and strategic issues.

The latter require a conscious and considered decision to increase (or decrease) our involvement in a function or activity, change our priorities, allocate resources or alter our policies and practices to pursue new directions or adopt new approaches to better fulfil our objectives.

It must be understood in this context that the only significance of the label "strategic" is that it identifies something that must be done that is either not being done now or must be done differently in the future.

There is very little direct overlap between the "strategic directions" we recommend and the concept of uniqueness. What makes the University of Guelph unique is our mission, the totality of what we are and of what we wish to become. Appropriate strategic action, together with the maintenance of "operational" activities, will ensure that we can carry out our mission effectively.

It must also be understood that not all the strategic choices we will make as part of the current planning exercise will be associated with the strategic directions we recommend; in fact, most clearly will not. An important objective of the stra-



getic-planning initiative is to make sure that our department, college and administrative structures are as focused on appropriate goals and as effective as they can be, that they are capable of supporting activities that cut across unit boundaries, and that there is no needless duplication.

Presumably, the final SPC report will make many suggestions and recommendations regarding these matters; this advice may well involve due consideration of strategic choices. But it may or may not involve one of the "strategic directions" as we define them.

An example may serve to illustrate the point. We may well choose to eliminate the three-entry-point tri-semester system (one of the distinctive characteristics of our 1984 Bovey submission). This would be a strategy we would adopt in response to changing times, and it would be a vital and crucially important "strategic" recommendation, yet it would not be a "strategic direction" according to our taxonomy.

In its preliminary report, the committee put forward the concept of two types of strategic directions called operational/philosophical and content/curricular. The committee and many respondents had difficulties with the latter group of directions on several counts.

First, the impression was that these were to be the only activities of importance in the future, and the importance of basic scholarship in the arts and humanities, natural sciences and social sciences appeared to be downgraded.

Second, the committee itself had great difficulty in deciding which content/curricular areas should be included without unnecessarily offending large segments of the University by excluding other important areas of endeavor.

Thus, we have proposed strategic directions (perhaps better described as strategic approaches and activities) that are of an operational/philosophical nature.

These strategic themes have several common characteristics. They have the potential to have an important influence on all academic areas of the institution, not just a subset of departments or specializations. They are of a continuing long-term nature rather than relating to a single act or decision. They represent our vision of what must be done to cope with the challenges of the near future, not just in the context of what we do, but how we do it.

The former content/curricular strategic directions that appeared in our progress report are now categorized as "new initiatives, renewals and interdisciplinary activities" as a part of mandate item (b).

As the committee worked towards fulfillment of its mandate, the characterization of some activities as "strategic" became less and less useful. In fact, we began to question the value of making a distinction between the strategic directions discussed below, as a category, and all the other recommendations that will be made in the final report, each of which will be strategic in the inclusive sense of the word.

## Collaboration

### 1. General

The concept of co-operation and collaboration across interfacial boundaries of all kinds is not foreign to the University of Guelph. Co-operation has always been a strategy of choice in research activities, with a massive amount of collaboration evident (particularly between individuals or small groups of researchers), spanning department, college, university and even national boundaries.

Historically, some areas of science have coped with the high costs of equipment and facilities by forming local consortia and/or establishing regional laboratories, and Guelph faculty have

been active participants in many such ventures.

Recent federal research funding strategies have led to the creation of networks of excellence that span the country, and these have been quite successful in achieving goals that would otherwise have been beyond our grasp.

As far as our research is concerned, it seems that we do what we must do to get the job done, and we have largely overcome the constraints of institutional boundaries.

For reasons that are not at all obvious, it has been much more difficult to establish meaningful collaboration between different groups in the general area of education, not just in terms of curriculum, courses and programs, but in matters involving student life and support infrastructure as well. Perhaps it is a perceived element of competition for fixed resources and for students that impedes such co-operation or perhaps a lack of understanding and appreciation of "cultural" differences that exist.

Whatever the cause, there are great benefits in breaking down barriers and developing effective links that foster co-operation in sharing and rationalization of activities across interdepartmental and interinstitutional boundaries. The statement in "Framing the Choices" on collaboration is strongly endorsed by the committee:

"Collaboration is a strategy that must become much more prominent in our teaching, research, administration and support functions. It is a strategy to be enacted on campus and off, locally and internationally. It means (among many other things) collaborating much more extensively across the old disciplinary boundaries, and it means working with other educational institutions, government, and the business community. Only through partnerships and the sharing of resources and expertise will we prevail. But this requires decisive, visionary leadership."

### 2. Internal

In the past decade, Guelph has made a concerted effort to encourage internal collaborative activities, and there have been many successes.

"Framing the Choices" states our challenge in the following terms: "The need to promote interdisciplinary teaching and research is made clear by the increasing complexity and interconnectivity of the problems that both university faculty and graduates in the workplace will be called on to address. The 'scholarship of integration' — including linkages within and between the sciences, the social sciences and the humanities — will be critical for life in the 21st century."

Such internal academic collaboration is dealt with in Section 3.5 of this report.

There is also a need, perhaps greater than ever, to reinforce the partnership between the academic and non-academic areas of the institution. This, too, has been an area of substantial activity in the last decade in support of one of our aims: "We will maintain an environment for teaching and learning that advances both intellectual and personal growth."

Many examples of the benefits of such partnerships are evident, not just involving Student Affairs but the Office of the Registrar and other areas as well. There is little doubt that our commitment to "the education and well-being of the whole person" is an attractive and distinguishing feature of the University of Guelph and one that requires partnerships between all of us who dedicate ourselves to the development of our students.

The spectrum of internal co-operation should include much closer relations between the colleges and all other support areas of the institution. Far too frequently, services in one area are truncated or eliminated without appropriate prior consultation; the unforeseen and unfortunate result is a transfer of respon-

sibility from one unit to another with no net improvement in efficiency.

### 3. External

It has already been pointed out that examples of productive external collaboration abound in the general area of research. Partners in these joint endeavors include government organizations and private business and industry as well as other universities. Indeed, some of our most productive and long-standing relationships involve the interaction between our agricultural researchers and the private sector.

On the other hand, by comparison with the almost limitless opportunities that exist for co-operation in education with our university and college neighbors, our achievements to date in this area are relatively sparse. Certainly, we must take pride in such initiatives as our joint graduate programs, our articulation agreements with colleges, our electronically linked classrooms and our continuing progress in dealing with shared library resources, to name but four. But there is much more that could — and we believe should — be done.

An important opportunity exists for additional collaboration at the level of academic support, such as the library and registrarial functions. Crucial to the success of further co-operation at the undergraduate level is the harmonization of our timetable with those of our neighbors.

**Recommendations: That collaboration with our neighbors in the area of academic support be given high priority; and that the plan to revise the timetable be compatible with increased collaboration with Waterloo, Laurier and McMaster.**

Why could one expect to find willing partners at this juncture when there has been relatively little interest in the past? There are several reasons to expect a positive response.

First, such activities as have been undertaken have been demonstrably effective and beneficial to all partners. Second, the funding environment is bringing great pressure on all universities and colleges to be as efficient as possible while preserving quality. One strategy for dealing with scarce resources is to share the resources we have and to co-ordinate what we do and how we do it.

Third, there has been an unprecedented amount of discussion at the level of the Ministry of Education and Training (MET) and the Ontario Council on University Affairs (OCUA) about the need for much greater articulation and co-operation in the postsecondary sector, in the interests of efficiency, fair treatment of students and accountability.

Finally, there is an increasing realization that institutional autonomy is not compromised by co-operative actions, rationalization and specialization of academic programs and the sharing of systems, library materials and research and teaching facilities.

With this as background, there is now a commitment from the presidents of Laurier, Guelph and Waterloo to work aggressively towards greatly increased collaboration. This is reflected in the following text of a letter jointly issued by the presidents Dec. 12, 1994.

"We are pleased to announce the creation of a presidential working group to study the opportunities for and the benefits of greater collaboration among our three universities. The group will include Dr. Jim Kahlfleisch, vice-president academic and provost, University of Waterloo; Dr. Jack MacDonald, vice-president, academic, University of Guelph; and Dr. Rowland Smith, vice-president (academic), Wilfrid Laurier University. We see this as an ongoing commitment to greater co-operation among our three universities. We expect to receive regular briefings on progress as well as a more formal annual report.

"Our institutions have an enviable record of collaboration in research activities and in undergraduate and graduate programs. The close proximity of our campuses enables a substantial amount of collaboration at the undergraduate level, particularly between Laurier and Waterloo. In addition, we can be justifiably proud of our early commitment to joint graduate programs. The audio-visual link between Guelph and Waterloo, now extended to McMaster, facilitates the offering of these programs. Other examples of joint activities include co-operative efforts to cope with library acquisitions and storage, and participation in the Native University Access Program. In each of these examples, the goal of our collaborative effort has been to increase the breadth and quality of our academic programs while containing or decreasing the costs of program delivery.

"The success of our existing collaborative endeavors has not been achieved at the expense of the autonomy and distinctiveness of our individual institutions. We look forward to other joint initiatives for we are convinced that increased collaboration can be an important component of a successful strategy to maintain and enhance quality despite the funding difficulties we face."

It is expected that the scope of discussion will range from co-operation in course and program offerings, through co-ordinated hiring of faculty to a very broad range of possibilities associated with shared infrastructure. Guelph will also be involved in independent discussions with McMaster University regarding the possibility of developing a closer relationship in several academic and support areas. Closer ties with community colleges are also well worthy of exploration, and many new and exciting initiatives are under discussion.

Perhaps the most important interface in the educational continuum is that between high schools and universities. *Toward 2000* recommended that:

"The University should strengthen its efforts to co-operate with primary and secondary institutions. It needs to work more closely on educational topics such as curriculum design and continuing education for teachers. In general, it should work toward the formulation of a coherent set of goals that govern the complete educational process from elementary to advanced stages. A sense of common purpose should characterize institutions along the whole educational spectrum."

A "common sense of purpose" is not currently very evident, and the lack of articulation in curriculum, standards and educational philosophy gives rise to a marked discontinuity in the educational system and a correspondingly immense opportunity for increased efficiency. Quite clearly, this is not a situation that the University can attack on its own, yet it so obviously cries for attention that it cannot be omitted from any complete discussion on collaboration.

Short of dealing with the larger issues, there are many opportunities for much greater direct interaction between Guelph and the secondary institutions our students come from, not just in the area of liaison, but also in possibilities for shared responsibility for program delivery. An example is the joint offering of courses that are given at Guelph (and other universities) and are also available at the high school level.

Previous discussions concerning co-operative activities and partnerships with business and industry have largely centred on research and contract initiatives. Although these must continue and even expand, there are three areas we must give far greater attention to in the future.

First, if experiential learning is to be an important component of "learner-centredness," much closer ties will need to be established between the University and our business partners in this effort.



Second, the amount of in-house training and continuing education of employees in business and industry is immense and increasing, yet universities have had a depressingly small role to play. We simply must become more than bit players, not just to create a market for our courses and programs, but also to develop opportunities for continually both measuring and demonstrating the relevance and applicability of our curriculum. This ground is increasingly being occupied by community colleges, and we will ignore it at our peril.

Third, a successful strategy of business is the formation of strategic alliances and working arrangements between specific companies. Universities have done very little of this, perhaps because of a fear of developing too close ties with specific industrial partners. We submit that we should be more active and aggressive in forming with business companies long-term relationships that will be of benefit to both the University and the business partner.

## A learner-centred university

For as long as we have existed as a university, Guelph has thought of itself as an institution with a special commitment to undergraduate education. Even during the time we were emerging as one of Canada's leading research universities and, later, as our graduate programs grew in stature and size, we maintained a strong focus on the undergraduate experience.

As noted earlier, this constancy of purpose has been manifested in a series of statements — over a period of two decades — that defined and refined the nature of our undergraduate enterprise. Most recently, *Toward 2000* featured a set of learning objectives that set out qualities that any well-educated graduate should possess.

In a fashion that is consistent with and complementary to the learning objectives, the current strategic planning exercise has focused on skill development, the research/teaching link, learning processes and teaching processes and the learning environment.

Because the issue of a learner-centred university has been the subject of a major report to SPC, there is no need to expound at great length on the importance of this initiative. In what follows, we have tried to set out quite succinctly a learner-centred vision that is both focused and builds on existing strengths and activities.

Our vision begins with a strong and complete endorsement of the learning objectives and incorporates a call for continued effort towards their full implementation. We endorse the concept of learner-centredness discussed in "Framing the Choices" and further developed by the committee on learner-centredness, for which teaching is seen to be less an imparting of prescribed content than a fostering of self-directed inquiry, and in which a student is expected to assume increased responsibility for his or her own learning.

The University must promote active learning by students, encourage peer-group learning and collaboration among students and incorporate a broader range of approaches into our educational processes. Within such an educational framework, the role of faculty will change, with lectures receiving less emphasis.

Guskin (*Change*, October 1994, pp. 16-25) proposes that "to create learning environments focused directly on activities that enhance student learning, we must restructure the role of faculty to maximize essential faculty/student interaction, integrate new technologies fully into the student-learning process and enhance student learning through peer interaction."

In their initial response to this concept, many faculty have expressed concern that the adoption of a

learner-centred approach is inconsistent with decreased numbers of faculty. Although we agree that the transition to this mode of instruction will be lengthy and time-consuming, the workload need not increase and may actually decrease in the steady state.

With greater emphasis on both self-reliant and peer-facilitated learning and greater application of learning technologies, faculty will probably engage in less formal instruction, but greater informal and out-of-class interaction with students.

Although the cost associated with reducing lecture hours in favor of more small-group contacts is so far unknown, it is likely substantial. Moreover, such changes are not going to happen of their own accord or by a vague directive to chairs to implement learner-centredness; they will have to be carefully orchestrated by program committees.

In concluding this brief summary, we wish to list other initiatives that are consistent with the concept of a learner-centred approach to education. We favor the adoption of a credit system, an increased role for experiential learning (including co-operative education), the concept of course challenges and prior credit, modification of the course-scheduling (slot) system, and greater incorporation of our research results and experiences into the undergraduate experience.

The relationship between the course-scheduling system and "learner-centredness" might require some explanation. In an environment where students are expected to be more independent in their work and thinking, substantial blocks of time must be made available to them for independent study; our current system does not permit this.

Finally, the devolution of greater responsibility to students is entirely consistent with and dependent on our continued commitment to concerning ourselves with both the intellectual and personal development of our students.

## Internationalism

Since its creation, the University of Guelph has had a major involvement in international activities. For many years, no other university in Canada was so active or important a player in international development work. *Toward 2000* expanded the perspective somewhat when it called for a strong international emphasis in our undergraduate and graduate programs:

"We have a responsibility to develop a world view in our students and to encourage foreign students to participate in our undergraduate and graduate programs."

Recognizing that our international development work at that time was largely in the realm of agriculture, *Toward 2000* urged us to "incorporate an appropriate international perspective into all parts of the University." This theme was broadened even further in the elegant statement on internationalization in "Framing the Choices":

"University graduates must be prepared to deal with other cultures and global issues in a world characterized by the increasingly steady flow of people, ideas, information, capital and products across national boundaries. Major world issues such as population growth, conflict resolution, resource depletion and the deterioration of the natural environment will require the best interdisciplinary efforts our universities can muster — and these simply cannot be approached in a parochial manner. Both teaching and research must be 'internationalized' in the university of the 21st century."

We strongly endorse this statement because it embodies all aspects of internationalism and sets an ambitious set of goals and challenges for the University. The report of the committee on internationalism will presumably form the basis of our renewed commitment to interna-

tionalism in our educational programs. We select and endorse the following recommendations from the report, recognizing that further work will be required to establish priorities and an implementation timetable.

1. We believe that the University of Guelph should reaffirm its commitment to the value and practical importance of an international perspective in education. A fortiori, we advocate that internationalism should become one of the major distinctive characteristics of our university.
2. Review each undergraduate academic program and seek ways to strengthen the international component, such as changes to the content of core course. Ensure that program structures do not unduly impede student participation in exchange opportunities. We recommend that each undergraduate student's academic program should incorporate an explicit international component.
3. Our existing strengths in Western Europe should continue, and the Caribbean/Latin America should become a new strategic focus.
4. We recommend that the Board of Undergraduate Studies consider setting specific targets for undergraduate participation in exchange agreements and study-abroad programs, and that the dean of graduate studies identify opportunities for developing international exchanges at the graduate level.

## Open learning

The term "open learning" — as it will come to be understood at Guelph — embraces distance-education offerings in the undergraduate and graduate curricula; "creditable" courses, including our regular distance courses and purpose-built packages for sector groups, which are offered primarily by distance to open learners; and non-degree-credit offerings, whether by distance, face-to-face or a combination thereof (formerly "continuing education").

Open learning is proposed as a strategic direction for Guelph because it has enormous potential for increasing efficiency, accessibility and service to the community. While saving money and, indeed, making money for the institution, it extends our intellectual reach and thus our power to contribute to the common good. Building on our traditions of service and academic excellence, it can position Guelph as a clear leader in addressing the dramatically increased demand for lifelong learning.

Like the other proposed strategic directions, open learning has potential for all academic areas of the institution. And like the others, it will require sustained long-term effort. We cannot, of course, move on all fronts at once; neither can we allow the creation of distance courses for undergraduates or professional groups to consume too great a share of our total institutional effort. But in a carefully staged and collaborative manner, we can and should do a good deal more than we are doing now.

Intelligent choices about where we can collaborate on open learning and where we should concentrate our energy and resources will go a long way toward helping this university survive duress and flourish.

The choice of open learning as a strategic direction depends in part on its intimate, fruitful connection with each of the other strategic directions we propose — collaboration, internationalization and learner-centredness.

Collaboration within the University itself, with other educational institutions in the province, the nation and around the world, and with sector groups that can help fund and serve as a market for our

courses will be essential if we are to spend our time profitably.

In the creation of distance courses, it will be critically important to assess what is needed and what is not because it is already available to us from external sources; we simply must collaborate in developing and sharing resources if we are to achieve true excellence, avoid senseless duplication of effort and obtain maximum utility.

Collaborative ventures, consortia and provincial, national and international initiatives are now and will increasingly be developing all around us. If we are to sustain quality and reputation, it will be essential for Guelph to participate in and help shape the future reality.

Open learning can be an important dimension of our international thrust with respect to both distance courses (which can serve our students studying abroad and for which there should be an international market) and initiatives such as study tours for alumni and others and the emerging concept of a global village, whereby international students (who might subsequently become regular Guelph students) are brought to campus in the summer. In addition, an international perspective should be apparent in the content of our open-learning courses.

The scholarship and innovation required to develop open-learning courses should foster a learner-centred approach to teaching and have important spinoffs for our regular curriculum. These should include the identification and production of teaching strategies and materials for use in our regular on-campus courses.

Open learning (particularly through purpose-built packages of courses serving professional needs) also has the potential to generate substantial net revenues to support essential curricular development across the University as well as local initiatives in the particular departments and colleges that generate the revenue.

Distance-education courses could be used to address some very specific future concerns in undergraduate programming at the University. They could be a critical component in easing the move to a single-entry system because students could "begin" at any point as open learners. Distance courses could also ease the perennial problem of limited-enrolment courses because overflow students could take the desired course by distance if it was available in that format.

Where departments may wish to accommodate students by offering a one-semester course in more than one semester, a reasonable compromise might be to offer it in "face-to-face" mode in one semester and distance format in the other(s).

The availability of a distance course makes it possible for students to take courses that cannot otherwise be accommodated in their schedules.

Distance-education courses, if their proliferation is carefully managed and their pedagogical effectiveness assured, could reduce the costs of delivering our undergraduate curriculum in a responsible manner. They could also appreciably enhance flexibility at a time when other potent forces will be working against flexibility.

A strategic focus on open learning makes fiscal sense and pedagogical sense. In support of lifelong learning, it can improve service and involvement for our alumni, and can support transitions for students from the University to the workplace and back again. It helps provide the flexibility and innovation we need in the delivery of our curriculum, and it provides access to the University's resources for many individuals for whom our regular undergraduate or graduate programs are not an immediate option.

It is a way of coping and a way of opening the doors of the University of Guelph without placing undue stress on our physical plant — a way of reaching out to our neighbors and the world.



# Relationships among programs, colleges and departments

Item (b) of the committee's mandate reads as follows:

"To assess the University's current structure involving departments, colleges, faculties, program committees and centres in relation to alternatives and the potential for reconfiguration. Objectives of the assessment should include:

- enhancing interdisciplinary teaching and research;
- enhancing the University's ability to renew and reform curricula; and
- increasing the efficiency in the use of resources."

## 3.1 Introduction

As an introduction, we note that planning the future size and configurations of the colleges and departments is essential. The success of SERP led several respondents to question the need for tampering with the University's structures, pointing (justifiably) to the success Guelph has enjoyed in promoting its academic programs with its present structure.

There is a flaw in this argument, in the committee's view. SPC has been told to expect that Guelph will have to "downsize" by about 10 to 15 per cent over the next very few years. It is true that about 10 per cent of University of Guelph employees have taken advantage of SERP, thus providing the University with some breathing space. But without a plan, restructuring will prove to have been implemented de facto by the caprice of whichever departments lost the most members through retirement, rather than according to a strategy. It is vital that what few rehiring take place over the next few years be situated where they will be most effective.

A general issue concerns "doing more with less." Many respondents to the committee's earlier reports believed strongly that (all) the University's current programs must be preserved; others made well-argued proposals for new initiatives. This is going to be a difficult problem for the University community to face. Fewer human resources will simply not allow us to develop new initiatives without giving up some of our present activities.

This issue is connected directly to SPC's mandate to consider "program mix" for Guelph. If we are unwilling to give up any of our present programs and/or course offerings, the University's prospective program mix has already been defined: it is precisely what we do now, plus whatever new initiatives we decide to undertake. This is an issue for the program committees.

APC quickly came to the conclusion that there are no "limbs" among our degree programs that are so peripheral that they should be amputated completely. Within programs, we note that even low student participation has been loudly disputed as a sufficient rationale for eliminating specializations. Nevertheless, we point strongly to the fact that a reduced faculty and staff complement cannot possibly be expected to maintain all our present activities plus new initiatives without a serious erosion in both program quality and faculty/staff morale. In this context, open learning may allow us to continue to offer (much of?) our current program mix in a less faculty- and staff-intensive mode of course delivery, even for on-campus students in "regular" degree programs.

It is recognized, however, that this mode of delivery is not equally appropriate in all disciplines and that substantial start-up costs are involved in introducing open-learning/distance-style courses.

The latter point will be addressed in SPC's draft final report.

The committee notes that many of the recommendations of SPC's various committees, including, alas, our own, involve either the establishment of committees and working groups or directives to pre-existing committees or councils to recommend changes to various aspects of campus life. It is essential that these activities, however important, be undertaken expeditiously, so that they do not deflect us from our primary institutional missions of teaching and research. Decisions must be made with due care, but at the same time, we must not procrastinate.

This committee was asked to bring options and suggestions to SPC, rather than to make prescriptive recommendations. As noted in our earlier papers, that responsibility rests with Senate. The committee does not recommend making changes to our college structures at the present time, believing that such changes should take place after any departmental reorganizations have occurred.

Our approach has been to highlight areas that we believe need further work and to indicate who should take on the responsibility for developing and subsequently implementing any needed changes. In every case, the "who" should be the people most involved; categorically, we do not recommend setting up endless new committees to study each proposal, nor to "micro-manage" by a committee such as APC. The people involved must take charge of their own programs and make the necessary decisions about the future of both the programs and the academic structures supporting them.

Emphatically, the committee does not see this report as recommending "no change." While respecting the areas of traditional disciplinary scholarship, the committee wishes to place much more of the responsibility for programs and hirings in cross-disciplinary areas in the hands of councils, such that departments in these areas will not be able to make decisions unilaterally. In many cases, the objective we have is "collaboration now, possibly leading to complete integration later."

The success of this approach will depend on the resolve of the senior administration to ensure that the interdisciplinary councils not be bypassed when decisions are made. Unless a "climate of trust and open communication" is established, however, councils and others will be inhibited from taking the initiative on making decisions, for fear of negative criticism.

With these statements in mind, this section of the committee's report is in three parts.

- First is a discussion of some possible models for organizing or reorganizing our present college/departmental management structure. Frankly, it is unlikely that the University of Guelph 20 years from now will have departed greatly from the concept of colleges and departments, simply because this management structure is familiar and firmly entrenched. Very strong arguments would have to be mounted to justify the dislocation associated with dismantling this model of University governance in favor of something else. Within this framework, however, the identities of specific college and departmental units may well undergo revision. In addition, we are proposing that certain responsibilities for decision making shift to the purview of councils, rather than remain entirely the prerogatives of individual departments.

- Second, there is a series of "college reviews." Although these acknowledge the continuation of the present college structure for the immediate future, they are not intended as an endorsement of the status quo, but to indicate perceived problems associated with the present structural arrangements, as an underlying rationale for possible changes. Another purpose of this section is to discuss some of the responses the committee received to its progress reports.

- Finally comes a section entitled "renewals and new initiatives," where specific areas of scholarship are examined with a view to the eventual emergence of new structures. In general, these areas are interdisciplinary or interdepartmental and can be considered the successors of the "unifying themes" of "Framing the Choices" or of the "curricular strategic directions" of this committee's earlier paper.

## 3.2 Department and college structures

The committee's mandate asked for the presentation to SPC of alternative models for the organization of the University's colleges and departments. The models described below address the relationship among the faculty, departments, colleges, program committees and the central administration.

In our suggestions for reorganizing the University's administrative structure, we have considered the function of these various administrative units. Our suggestions attempt to define and redefine the responsibilities of various administrative officers, including department chairs, college deans and program committees.

These models try to solve perceived problems or limitations in our current administrative structure, but none of the models presented is ideal, nor is our current administrative system without merit. Some models may work very well in some parts of the campus, but be less desirable in others.

Models 1, 2 and 3 offer choices regarding the relative importance of the college administration, but these are not clear alternatives, and various combinations of these models could be considered. Models 4 and 5 offer alternatives in the organization of "pure" and "applied" activity.

### Our current system

Guelph's present administrative structure was defined in a report to Senate Nov. 11, 1969, by a committee chaired by B.C. Matthews, then academic vice-president. The committee predicted that between 1969 and 1985, there would be a dramatic growth in our BA and B.Sc. programs (2.5- and five-fold increases respectively to 5,676 and 3,125 students) and graduate programs (a threefold increase to 1,960 students), but constant enrolment in the traditional B.Sc.(Agr.) degree program (930 students) that had been predominant previously.

The committee therefore recommended a structure that would accommodate and encourage this growth by the formation of new colleges. The report sought to maintain an administrative balance between the new growth areas and our traditional areas of specialization.

In hindsight, the committee was quite accurate in its predictions of student en-

rolments, but it assumed that there would be a corresponding growth in budget allocations. It did not foresee the series of reductions in government funding that began in the 1970s and has escalated in the 1990s, leading to dramatic budget cuts. The committee did not foresee the growth of interdisciplinary activities nor the necessity of interdepartmental co-operation.

The responsibilities of a department chair are very clearly defined in faculty policies. In any reorganization, it is these responsibilities that must be reassigned in the new administrative structure. According to Section C.3.2 of the Faculty Policies Handbook, these responsibilities include:

### Academic

- graduate and undergraduate appraisals; assignment of teaching responsibilities; assignment of academic advising responsibilities; meeting accreditation requirements; graduate admissions (in selected departments only).\*

### Budget

- allocation of budget resources; allocation of space and facilities; accounting to the University.

### Personnel

- faculty hiring and evaluation; staff hiring and evaluation; faculty and staff development.

### Communication

- among faculty, staff and students in a department; with senior University administration on behalf of the department; with external government agencies (Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), etc.); with industry and other external clients.\*

### Administration

- implementation of University policies and regulations; leadership to achieve goals of the University.

\* not listed in faculty policies, but common responsibilities in many departments.

The chair is directly responsible to the college dean, who therefore presumably has the same responsibilities as the chair, but this is not defined in faculty policies or elsewhere in University policies. There is therefore a built-in appeal process in place with this organization in which faculty, staff or students may appeal a departmental decision to the college or a college decision to the University.

The role of a dean has changed over the past few years. In 1970, a dean was the academic leader of a college, which in turn was a group of pedagogically related departments. In most cases, the program committee was the responsibility of one college or two, and the dean functioned as its chair. Today, most deans have multiple roles. They lead a college and are frequently also "designated" to represent some other, usually interdisciplinary, group or program — environmental science, business, toxicology, plant biology, etc.

Whereas in the 1970s, the dean acted primarily in an advocacy role for a specific discipline, the current role is more institutional. Deans are the principal decision makers for our academic programs. They regulate admissions to the undergraduate programs through VPAC and student/faculty ratios through budget allocations to departments, faculty hiring and staff hiring. The college dean has no direct role in graduate pro-



grams, except through budget allocation to graduate teaching assistantship (GTA) and sessional positions.

There are several perceived weaknesses in our present academic administrative structure. These include the following:

- The boundaries between departments and colleges inhibit interdisciplinary and interdepartmental activity in numerous ways, including lack of resources for programs that are not clearly identified with a specific department and lack of recognition for faculty and staff for work done outside the department's major area. Another consequence is a lack of flexibility to pursue new initiatives that occur in disciplines that bridge the mandates of more than one department, such as environment and biotechnology.
- To accommodate the required downsizing of our faculty and staff with minimal loss of academic quality in its teaching programs, the University must have flexibility. The departmental and college boundaries make it difficult for faculty in one department to teach courses in another, even though they are academically qualified. As a result, teaching assignments are not always made in the best interest of the University, but in the best interest of the department. One of the ways the University might effectively downsize with minimal reduction in the breadth of its academic programs is to reduce this duplication among departments by promoting increased interdepartmental co-operation in undergraduate teaching, perhaps through the institution of "University Time" as a component of faculty responsibilities as suggested in the Academic Restructuring Committee report (see Section 3.5). This will require a change in the academic culture, in the sense that several departments currently act as mini-universities and insist on autonomy in their deployment of teaching resources.
- Most degree programs have evolved since 1970 so that they no longer represent the embodiment of a college. As a consequence, administrative responsibility for some of our major undergraduate programs is separate from control of the budget, staff and faculty hiring, teaching assignments, merit evaluation, etc. In one case, the B.Sc.(Env.), a complete degree program is outside this normal method of institutional management. Most program committees do not fulfil the mandates given to them by Senate (see Senate bylaws, pp. 52-54, especially Item 8). The exception may be the B.Sc.(Agr.) committee, but this is only because the OAC dean has used his budget authority to implement changes proposed in Vision '95. Similar changes to the undergraduate curriculum in the B.Sc. and BA programs require co-ordinated action by two or more deans and are therefore harder to achieve.
- To promote interdepartmental/interdisciplinary activities, we have established a complex, multi-layered bureaucracy with both overlapping and diffuse responsibilities. This organization tends to shift resources from the productive aspects of teaching and research to bureaucracy.
- There is inequity in tying GTAs — and therefore the University's financial support for graduate programs — to the undergraduate teaching focus of a department. Departments with large undergraduate service courses have GTAs to support their graduate programs, whereas those without them must find research or other external funds to support their graduate programs. The dean of graduate studies lacks

control of the University's graduate programs because there is no fiscal authority in that office.

### Model 1: Line management

This model has three tiers of administration: central → college → department. Their relative responsibilities are based on the 1970 (Matthews committee) concept of the University of Guelph, where each level functioned in the line management of an undergraduate program. The dean served as both the academic leader of a college and chair of the program committee (BA and B.Sc. each involved two colleges and therefore two deans). Small programs (at that time BLA, B.Sc.(H.K.) and B.Sc.(Eng.)) were associated with single "schools" rather than departments and reported to a single dean (OAC, CBS and OAC respectively).

Currently, we have seven college deans and nine undergraduate degree programs, namely:

Program	College/dean
B.A.Sc.	FACS
BA	Arts, CSS
B.Comm.	Intercollegiate
BLA	OAC
B.Sc.	Historically CBS and CPES, but now intercollegiate
B.Sc.(Agr.)	OAC
B.Sc.(Eng.)	CFES (formerly OAC)
B.Sc.(Env.)	Intercollegiate
DVM	OVC

In this model, colleges would be aligned with undergraduate programs; departments would be aligned with undergraduate majors and would usually have graduate programs. To implement this model in the 1990s in the mould in which it existed following 1970 would require the creation of two new colleges for B.Sc.(Env.) and B.Comm. programs.

Departments would be shuffled in some appropriate way to locate them in the "correct" college. The college would allocate the budget of each of its component departments based on its priorities.

The advantage of this model is accountability and management control; administrative responsibilities and "chain of command" are clearly defined. Undergraduate students have a definite "home" for their academic advising and social interactions; their association with the University is clearly defined; and their sense of class spirit and loyalty to Guelph is enhanced through positive interactions with a small group of peers, faculty and staff. The budget-allocation process is relatively simple. Our programs of special responsibility in agriculture and veterinary medicine are highlighted by having clearly identified "champions," and the University therefore avoids the necessity of defining itself as being distinctive in these areas.

The weaknesses in this model include reduced flexibility and a likely increase in "turf protection," intra-institutional competition and duplication of resources, especially in the science area among the undergraduate B.Sc., B.Sc.(Agr.), and B.Sc.(Env.) programs.

The assignment of some departments to a single college or degree program, when truly their interests and capabilities lie in more than one, would inhibit institutional flexibility. Separate departments to emphasize basic and applied sciences would be required. New initiatives or opportunities would require a new administrative structure (such as a centre or council), and institutional response would be slow, as has already happened in fields such as biotechnology and environmental sciences. This model therefore lacks the flexibility we consider essential in reorganizing administrative responsibilities.

### Model 2: Allocation model

In this model, each unit would "earn" resources (people, space, operating

money) for the delivery of a number of specific functions, such as:

- introductory and service teaching;
- teaching a discipline-based honors program (the department's major) or in an interdisciplinary program;
- development of interdisciplinary programs;
- graduate teaching;
- MET-sponsored research;
- contractual research (OMAFRA);
- administration; and
- special projects (international or major service projects).

Departments would therefore earn their operating budgets based on their distribution of effort. This allocation model is used in OAC and OVC departments, which now receive their operating budgets from both MET and OMAFRA. For many administrative functions, such as promotion and tenure, personnel management, communication and space allocation, departments would remain identified with a single college. The dean of that college would then act in implementing University policies and providing academic leadership.

This model is consistent with the reorganization that has recently occurred in the OMAFRA contract.

No major reshuffling of departments would be required to achieve increased flexibility and to accommodate the immediate downsizing as a result of SERP. Departments would be more accountable for their multiple functions, recognizing that their resources were dependent on their contributions in each area.

New initiatives or opportunities could be more easily developed with this organization than in a line-management system. The role of the central administration and the departments would become more significant; the role of the college would be less significant.

The dean of graduate studies would become a much more important position because graduate studies would be recognized as an activity in its own right with its own budget, rather than as an adjunct to the college structure.

Program committees would assume overall responsibility for an undergraduate program (see separate comments on program committees).

The support of graduate students is a problem in many departments. As noted in our progress report, the ideal situation occurs only rarely — for example, a large graduate program supported by a large undergraduate and service program, where there is much undergraduate teaching to be done and a large number of graduate students requiring teaching assistantships.

The concept of a graduate service assistantship (GSA), in which graduate students are paid for work necessary to the University, might solve this problem and simultaneously allow departments to keep a greater proportion of their budgets in non-established positions. This issue must, however, be approached carefully and consultatively because it may have an adverse effect on regular full-time staff.

**Recommendation: That GSAs be explored as a mechanism for increasing the support of graduate students.**

Some of the apparent flexibility in this model may be an illusion because faculty, in particular, are likely to remain associated with the same department even if that department should lose resource entitlement due to a reduction in some part of its activities, such as the loss of a project under the OMAFRA contract. Even if the unit did not receive new resources by taking on new responsibilities, it would still have responsibility for salaries. Consequently, the only real flexibility with this model comes at the time of retirements and rehiring, when a position might be transferred from one department to another.

Small departments would be particularly disadvantaged relative to large departments in this system because they would be less able to accommodate fluctu-

tations in budget entitlement from year to year.

Furthermore, the relative weighting factors assigned to introductory, service, honors program, graduate teaching, MET research and contractual research can only be highly subjective. Any changes in these weighting factors by the central administration could have dramatic effects on individual units.

This type of management is planned for the new B.Sc.(Agr.) program described in Vision '95. Many respondents to the committee suggested that this model would reduce the likelihood of successful internal collaboration within the University because departments would be openly competing for decreasing resources, such as competing to offer an undergraduate course or to conduct an OMAFRA research project.

Independent of this organizational model, we believe that faculty and staff must accept that their roles may change significantly over the course of their careers as the University's needs change. These changes might consist of different relative involvement in teaching and research and involvement in teaching in different programs or courses. The University must find a mechanism to encourage and reward flexibility in its employees.

### Model 3: Superdepartment model

This model proposes a two-tier system of administration for the University with 12 to 15 departments and no colleges. This might evolve because several departments merge or because a college is subdivided. Regardless, the middle-management and decision-making powers would reside in the new departments, whose 12 to 15 chairs would replace the current deans on VPAC.

Each department would have about 50 faculty and would offer both undergraduate and graduate programs. The department would receive its budget directly from the central administration, based on an allocation model that reflected its contributions to teaching and research.

Each department would have working groups that could be formed, financed and disbanded at the will of the faculty in the department and might focus on one or more undergraduate, graduate or research activities. These working groups or divisions would be physically located so as to maximize interaction and co-operation (i.e., in the same building), would include any number of faculty and might or might not have an operating budget only, excluding faculty and staff salaries.

Faculty could easily be members of two or more divisions, similar to our current joint appointments. A feature of this model would be that divisions or working groups might change over time more easily — and less traumatically — than our present departments.

Many argue that the interdepartmental programs, councils and research centres we have established to foster new initiatives are not satisfactory because the full potential of the new initiative is rarely attained. These structures are good for networking and co-ordination, but less useful for the decision making that is necessary to ensure long-term viability of high-quality programs. In many instances, these structures are very active for a year or two, then either slow down or disappear.

It has been suggested to us that the interdisciplinary activities that have really worked on campus have generally been within a department because only there are they adequately funded and recognized. But we have also heard the alternative view that the vigor of an interdisciplinary approach may be lost if all the expertise in a given area is concentrated in a single department.

A variation on this model is that the colleges might be redefined to become the undergraduate program committee



for the major degree programs — B.Sc., BA, B.Sc.(Env.), etc. — with a dean as its chair. The advantage of this approach is that even superdepartments would generally be too small to cover the full range of scholarship of these major degree programs.

A perceived weakness of this model is that there would be too many superdepartments for effective communication and decision making with the central administration. Effective interaction with the administration through the provost would become more difficult as the number of people reporting directly to the office increased. It is therefore likely that the superdepartments would become more autonomous and less co-operative, leading to increased fragmentation of the University.

Although large departments exist in some large universities in the United States, we have concluded that colleges must remain part of the University's administrative structure and that departments must communicate with the central administration primarily through colleges.

## Models 4 and 5:

### Pure vs. applied models

Models 4 and 5 represent the two choices we have regarding the distinction between "pure" and "applied" activities. In many ways, the choice between them is independent of whether Model 1, 2 or 3 above is selected.

Our current college and department structure is a mixture of two methods of organization that might be called discipline-based and application-based. Discipline-based departments are organized along traditional academic disciplines, and we have many successful departments of this type, including English, Economics, Physics and Zoology. The application-based departments are largely in the founding colleges and have an interdisciplinary focus on the solution of a societal problem. Examples are Environmental Biology, Land Resource Science and Family Studies.

In many areas on campus, this alternative method of organization has led to duplication — and omission — of faculty and department mandates. There are, for example, four plant biology departments with no mycology.

Most of the apparent duplication exists between a department in one of the founding colleges and one or more departments in the newer colleges. This was recognized in the Matthews report in 1969 and accepted as a means of nurturing and enhancing the BA and B.Sc. programs, which, at the time, the University planned to enlarge.

The boundaries among traditional disciplines have become less distinct than they were 25 years ago, giving the appearance of duplication. Consider, for example, the case of molecular biology. No longer do species boundaries define academic disciplines in biology. Departments that 10 years ago were exclusively animal, plant, microbial or environmental in focus are now using similar techniques, genes, etc., in their teaching and research programs and, as a result, now share common interests. This example has particular relevance to Guelph because of its strong commitment to biology and environmental sciences.

Given these developments, Model 4 reorganizes the University into separate colleges of "pure" and "applied" activity. Some respondents believe that "pure" and "applied" aspects of knowledge cannot be segregated, and many faculty would not be able to clearly identify themselves with only one form of activity. The weakness of Model 4 is that inevitably the "applied" college would start to hire "pure" faculty and vice versa, or the faculty members' interests would gradually change towards more applied, or more theoretical, work.

Some faculty believe that whenever possible, "pure" or "applied" activity could (and should) be components of

teaching and research in all disciplines. Model 5 would therefore combine "pure" and "applied" activity, when it exists separately, into a single department.

Society is demanding increased accountability from governments. As a result, some federal granting agencies have tied funding to matching grant programs with industry. Guelph has done comparatively well in this funding environment, but not in all disciplines. Faculty from traditionally "pure" and "applied" departments are now competing with one another for the same industrial and government sponsorship of research.

Our teaching programs have also shown a dramatic shift in student demand. Many of our students in the B.Sc. program, for example, prefer to remain unspecialized to keep their career options open. More focused programs such as the B.Sc.(Agr.) are not as attractive to these students.

One way to accommodate society's increased demand for applied research with the student's demand for a broad general undergraduate education is to adopt Model 5 and combine the "pure" and "applied" departments. Model 5 would allow faculty to follow the traditional teaching/research career path or opt for alternative career paths in the same department, whereas Model 4 would tend to direct the University into separate undergraduate teaching and research (graduate teaching) departments that have less flexibility for alternative career paths.

A consequence of Model 5 is the eventual disappearance or merger of the colleges where much of the distinction between "pure" and "applied" activity exists, namely OAC and CBS, FACS and CSS.

The Matthews report supported the "pure" disciplines that were spun off from the three founding colleges by providing them with the necessary isolation and nurturing that was part of separate college structures. After 25 years, have the "pure" disciplines become sufficiently established at Guelph to stand independent of a protective college structure? Do faculty have enough mutual respect for the "pure" and "applied" aspects of their disciplines to co-exist in the same department?

The letters from faculty, chairs and deans indicate that in most cases, the answer to these questions is a disappointing "no." Yet it is our hope that the barriers between pure and applied aspects of scholarship and teaching will gradually fall and that judicious rehiring after SERP will allow the University to move gradually towards Model 5 in its organization.

### Summary

Our goals in the reorganization of our administrative structure are to increase the University's flexibility in the use of its human and physical resources, to accommodate downsizing and to maintain the high quality of our academic programs in anticipation of variable and uncertain government funding.

Reorganization should allow Guelph to adapt more rapidly to change in the future, whether it involves opportunities for new programs or continued government funding cuts to our existing ones.

Reorganization must improve the institutional support for teaching and research that is provided to the individual faculty member, whether that be through improving infrastructure, increasing acquisitions by the library, increasing the amount of time available for scholarly activity, etc.

Reorganization should simplify interdepartmental administration, but at the same time allow the amount of interdisciplinary and interdepartmental teaching and research to increase.

**Recommendation:** That the University of Guelph gradually move towards a model of administration that encompasses the best features of models 1, 2 and 5. Specifically, these are:

- retention of the academic line-management structure VP → dean → chair from Model 1;
- development of a resource-allocation system that allows interdepartmental activities to be supported on an equitable/equivalent basis to those of departmental/disciplinary activities; and
- structures that accommodate "pure" and "applied" inquiry in the same unit.

The first item suggests retaining the essential features of the University's present system, the second modifies the system to promote interdepartmental activity, and the third implies the committee's desire that evolution will gradually lead to the amalgamation of units responsible for the fundamental and applied aspects of an area of scholarship. The second and third items come together with the concept of councils as a management tool for interdepartmental activities; further discussion is deferred to Section 3.6.

Any new allocation mechanism must be introduced at the departmental level in such a way as to avoid dramatic and unrealistic changes; a five-year implementation period is therefore recommended. The resource entitlements of a department based on Model 2 should be used to guide hiring of both faculty and staff. Departments that have less resource entitlement than their current allocation would be candidates for downsizing.

Reorganization of administrative responsibilities that would combine "basic" and "applied" activities (Model 5) and combine the administrations of some departments must progress gradually, with broad consultation among departments. The committee also recognizes that different sections of the University may adopt different parts of the administrative models described previously and may proceed at different rates.

We recognize that the University is much more mature than it was 25 years ago. Our present faculty have established career paths that they perceive may be threatened by this reorganization. In addition, the enthusiasm for change that was evident 25 years ago was based on the premise of continued growth, unlike our current projections.

## 3.3 College reviews

The purpose of these reviews is not to make comparative quality assessments of departments' teaching programs or research capabilities, but to explore possible efficiencies and collaborations so as to improve the quality of programs offered to students. Much of this material is taken from the departments' submissions to the committee and the Task Force 8 reports.

### 3.3.1 Arts and humanities

Respondents to the committee from the College of Arts stressed the importance of discipline-based scholarship in the humanities, the centrality of the humanities to what we in Canada know as a university, and the importance of a liberal education for the development of fully educated people. The committee fully shares these views. (We would note, however, that there is some divergence of opinion between respondents from this college and respondents from CSS as to the meaning and desirability of a liberal education across all specializations of the BA program. This is referred to elsewhere under "program committees.")

A major challenge to the College of Arts is the heavy and unequal impact of retirement on the college. In Arts, as in other colleges, a modest decline in overall faculty numbers will occur as the University downsizes by 10 to 15 per cent. Good judgment will be needed to

use the limited number of rehiring in the humanities most effectively.

**Recommendation:** That cross-disciplinary be an important factor in the selection of faculty candidates in the humanities.

### English and Philosophy

These two departments have in common that their programs can be considered central to any university's range of activities, that members of both departments have attained national and international scholarly reputations, and that both face immediate problems due to the imminent loss of faculty through early and normal retirements.

The interuniversity collaboration that this committee hopes to encourage is already evident in the Department of Philosophy with its joint PhD with McMaster (the longest-established in the University) going back to 1972. This could be placed at risk if no rehiring were to take place because an Ontario Council on Graduate Studies (OCGS) review of the joint program is imminent. Opportunities may, however, exist for co-ordinated or complementary hirings between Guelph and McMaster, with the future possibility that the established collaboration may extend itself to offering courses jointly at the MA and undergraduate levels.

English has strong student demand for its programs and is hoping to establish its MFA in creative writing. Likewise, the department has hopes of developing a focused PhD program in Canadian and postcolonial literature and cultural studies, an initiative that would probably not be possible unless some retiring faculty were replaced.

**Recommendation:** With regard to the short-term problem of retirement losses in English and Philosophy, the committee recommends that sufficient rehiring be allowed that their programs and reputations not be compromised.

It is recognized that a commitment to rehiring in English and Philosophy carries the implication that little rehiring will be possible in the short term in the other departments of the college.

### History

This department is strong in scholarship and has heavy demand for its programs, especially at the undergraduate level. The department's participation in the newly inaugurated tri-university (Guelph-Waterloo-Laurier) history PhD program is a well-timed movement into interuniversity collaboration. It is likely that the links established through this program will, over time, gradually and naturally extend themselves to the MA and BA levels.

Given that many historians regard themselves more distinctly as social scientists than as humanists (the Canadian Historical Association is a member of both the Canadian Federation for the Humanities and the Social Sciences Federation), this department should be encouraged to play a leading role in developing other forms of cross-disciplinary collaboration in the University — most particularly between the colleges of Arts and Social Science.

### Drama, Fine Art and Music

The committee believes that these departments, although small, contribute in an important way to the fulfilment of the University's mission. Restating the position of our first progress report, the committee sees no benefit from merging these departments into a single creative and performing arts department, despite their small size, because they are located in three different buildings. It has, however, been suggested to the committee that certain of the administrative functions of the three departments might advantageously be merged.

**Recommendation:** That the three departments consider the possibility of



forming a joint P&T committee to relieve the heavy committee load on the members of these departments (while recognizing that members of a unit may not feel comfortable being evaluated by scholars from another unit) and other ways that administrative and clerical functions might sensibly be shared. Responsibility: dean of arts.

Music has established a successful policy of using a few full-time faculty in combination with contractually limited outside musicians. The department's response to the committee's suggestion of collaboration with Laurier pointed out that some collaboration has already begun, but may be limited in scope due to the difference in emphasis of the two departments' programs.

Fine Art faces very heavy student demand for its BA program. This department has developed into one of the leading fine art departments in Canada; several of its members have achieved international recognition. The department's strength should be protected at both the BA and MFA levels.

Drama has a clear national pre-eminence in the field of Canadian drama. Its programs have always been cross-disciplinary, and it is important to recognize that because of this factor, retirements in other departments in the college threaten to have a very adverse impact on the department's MA program. This is one reason why the committee recommended above that cross-disciplinarity should be an important factor in the selection of candidates for replacements in the College of Arts.

## French Studies and Languages and Literatures

These departments contribute in an essential way to the strategic direction of internationalization proposed by this committee and will play an important role in the new European studies program. Although respondents to the committee showed no support for the idea of merging these units again, there may be ways that their administrative and committee functions might be shared.

**Recommendation:** That the two departments consider forming a joint P&T committee (to reduce the frequency with which members would have to serve) and other ways that administrative functions might sensibly be shared. Responsibility: dean of arts.

The committee has learned of a proposal by French Studies to explore the launching of an MA, possibly in collaboration with Western and Windsor. The committee would encourage this as a very positive development.

In its progress report, the committee commented on the large number of introductory language-training courses offered by these two departments. Some of these must remain, given that not every high school offers OAC courses in German, Greek, Italian, Latin and Spanish. But we believe that a substantial part of pure language training should be taken over by modern interactive language-training software, thus enabling Languages and Literatures and French Studies to concentrate teaching faculty resources more fully in advanced courses in language, literature and culture.

(The committee endorses the related suggestion that serious consideration be given to establishing a language institute with responsibility for the technical aspects of language instruction. This might include instruction in English as a second language for foreign graduate students across the University.)

**Recommendation:** That the University invest in language-teaching technology (hardware and software) as a means of increasing the proportion of introductory language-skills teaching that could be done with the aid of interactive computer technology.

In the committee's view, Languages and Literatures faces a number of additional problems:

- limited teaching resources, which in some areas may be inadequate to sustain a major program;
- low enrolments in the honors programs, although the committee notes that there is significant interest in minors in these subjects; and
- heavy undergraduate teaching commitments, which some faculty believe leave them with insufficient time for scholarship.

Some streamlining of major programs may be possible, but these remain apparently intractable problems.

If we assume a genuine commitment to internationalism by the University, the importance of Languages and Literatures can only grow. The department will have a key role in the European studies BA specialization, and if Guelph chooses Latin America as a regional focus of its strategic direction of internationalism, the Spanish section will acquire added importance. (A north-south geographical focus of this kind would also imply a commitment to Portuguese.) Unfortunately, given the present fiscal climate, it seems likely that these new commitments will have to be met by the same or even a reduced faculty complement.

**Recommendation:** That to the extent that new technology makes possible a sharing of teaching resources among neighboring universities, the department establish collaborative relationships with other universities in the areas of German, Spanish, Italian and Classics. This would make it possible for Guelph students to be exposed to a larger number of faculty members (and a wider range of expertise) than Guelph is able to provide. It should also make it possible for faculty members to concentrate more of their time in the areas of their primary scholarly interests. Without such collaboration, it will be difficult to sustain the existing major programs.

## Cultural studies and interdisciplinarity

Many faculty in the College of Arts have expressed frustration over the obstacles that currently stand in the way of cross-disciplinary reconfigurations of teaching and research in the arts and humanities. As one small step, the committee suggests that the practice of cross-listing of courses between and among different major programs in the College of Arts be encouraged.

Except for certain purposes (such as collaboration by members of other departments in the drama MA, individual faculty members' participation in interdisciplinary programs like women's studies, Scottish studies and Akademia, and occasional team-taught courses), the different departments in the College of Arts appear in the past to have existed in a state of isolation one from another.

New developments with the potential to change this situation are the European studies program and the newly formed Council on Cultural Studies. The committee welcomes these initiatives, the former from the perspective of internationalization, the latter in support of interdisciplinary scholarship, and also notes that the English Department's proposal for a PhD program lists cultural studies as one of its distinct fields.

**Recommendation:** That steps be taken to make this council more fully inclusive of interested faculty in CSS (including perhaps some of the proponents of "cultural ecology").

## 3.3.2 College of Biological Science

CBS is one of the successes from the 1970 reorganization of the University. Its size and organization, its accomplishments in research and teaching, and the quality of its students have placed this

college among the foremost biology schools in the country. Almost unanimously, the faculty expressed disappointment and concern that SPC did not recognize this unique strength either in "Framing the Choices" or in the University's draft mission statement.

Most respondents objected strongly to the reduction in relative emphasis on biology that would occur if a college of science were formed. In addition, the deans of both CBS and CPES believed that a combined college of science might be too large in numbers and too broad in scope for its dean to manage effectively (although this structure appears to work well at other universities).

The CBS dean's response did, however, acknowledge the need for greater co-ordination of teaching programs across the four science colleges (CBS, CPES, OAC and OVC) and recommended establishing a formal mechanism to achieve this, a suggestion the committee endorses.

There seems to be agreement in principle that further integration must be stimulated among the "life science" colleges to create maximum synergy in their programs and to minimize inefficiencies.

The majority of students in the B.Sc. program in biology prefer to remain unspecialized rather than select a highly specialized major. The unspecialized B.Sc. in biological science allows students to take advantage of the enormous strength and range of biology on this campus.

A negative side must be recognized, however. The lack of homogeneity in the backgrounds of the students inevitably leads to repetition of material in upper-level courses. In addition, many students graduate with a "patchwork" of 40 courses. This could be avoided only at the expense of providing much greater resources for academic counselling of this group of students.

Because of our enormous strength in biology at Guelph, students almost have "too much to choose from" in designing their programs. Put slightly differently, the rigidity of many specialized honors programs as laid down in the calendar removes much of the obligation for routine academic counselling. Duplication of material and lack of adequate advising are specific concerns expressed by students to SPC.

Ironically, many biology students are attracted to Guelph because of our unique specializations such as marine biology, yet when they actually get here, they tend to choose the unspecialized degree, which is closer to the honors biology available at other universities in the province.

**Recommendation:** That the CBS Dean's Council and the B.Sc. program committee, working together, determine whether extra academic counselling is needed for the unspecialized B.Sc. biological science students and, if so, how to provide the resources for this activity.

A specific problem at the introductory undergraduate level is the requirement for all students to take a course in each of the major taxonomic divisions. This precludes students from registering in courses in ecology, cell biology, molecular biology and genetics until their second year.

**Recommendation:** That the B.Sc. program committee, as a matter of urgency, determine the appropriate introductory course requirements for biological science students.

## Botany

This department is one of four plant-related biology departments on campus. Botany has several internationally recognized faculty, good research funding and a strong graduate program. It participates in the interdepartmental B.Sc. plant biology undergraduate program, with an area of emphasis in botany and provision of the foundation courses in

plant science for science students generally and for degrees in horticulture, crop science and environmental biology in particular.

Botany faculty are concerned that merger with other, more applied plant-related departments would lead to loss of both identity and institutional commitment to basic botany. The committee sees this issue more as one of co-ordination than of dedication to a particular academic structure.

The Plant Biology Council (PBC) puts the basic structure in place for co-ordination to occur. As discussed in the context of PBC, we recommend that the council progressively assume responsibility for co-ordinating course offerings, plant-related undergraduate majors and faculty and staff hirings.

Whatever the outcome of any reorganization, the University must continue to support the discipline of botany (as opposed, necessarily, to continuing to support a department of this name).

## School of Human Biology and Nutritional Sciences

These two units are considered together because they have expressed a desire to merge. Human Biology is responsible for two specific B.Sc. undergraduate programs, human kinetics (formerly B.Sc.(H.K.) and bio-medical science, the latter jointly offered with the Department of Biomedical Sciences. Both these programs have strong undergraduate demand.

Human Biology currently has no PhD program of its own, but registers PhD students through the biophysics program. Because the majority of these students take few or no graduate-level physics courses, it would be preferable to provide human biology students with their own PhD. This would probably occur with a merged department because the two units are already engaged in the design of a joint program.

The undergraduate specialization in nutritional sciences has always suffered from under-enrolment, but the graduate and research programs are considered strong. A re-evaluation of the nutritional science and human biology programs around the focus of "nutrition metabolism and exercise physiology," as suggested by the two units, might heighten student interest.

The merged department wishes to remain affiliated with CBS, although the link to OVC through the bio-medical science undergraduate specialization suggests that OVC might be an alternative home for the department.

Currently, Human Biology and Nutritional Sciences are separated physically by almost half a kilometre. Ideally, the merger plan should include the relocation of some members of the two present units between the two buildings.

**Recommendation:** That this merger proceed, but because there is no prospect of bringing the merged group together physically, that a clear plan be developed to administer the joint department and ensure cohesion between groups. A facilitator should be appointed to assist in determining the correct college for the new department.

Before the merger is given final approval, discussions should take place with all affected individuals, including the division of applied human nutrition in the Department of Family Studies, to determine the "home" that will best accommodate their needs. Up to the present, the applied human nutrition group has confirmed its desire to stay out of this new amalgamation; it would continue to have a professionally accredited undergraduate program and separate graduate programs in Family Studies.

**Recommendation:** That the proposed human biology and nutritional sciences group consult closely with the applied human nutrition group as it designs its new graduate and under-



**graduate programs to avoid duplicating what is already offered by applied human nutrition, possibly through the existing interdepartmental nutrition committee.**

Such a move would involve closer co-ordination between the B.A.Sc. and B.Sc. program committees in program and course offerings in this area.

## Molecular Biology and Genetics

This department's mandate cuts across the traditional organization of CBS by taxonomic kingdoms. On the molecular biology side, this discipline has impact right across biology and is fundamental to biotechnology.

Although it is very important to the University that this discipline prosper, it is unrealistic to collect up all the molecular biologists from the taxonomic disciplines and house them in a single department. Instead, the strategy should be to ensure that strong links exist between MB&G and the taxonomic (CBS) and commodity-oriented (OAC) disciplines, and between molecular biology and biochemistry.

The same comment applies to genetics, where we have on this campus probably the strongest group of genetics faculty in Canada. But it is fragmented, with much of the strength outside CBS, notably the animal-breeding group in Animal and Poultry Science and the plant-breeding group in Crop Science and Horticultural Science.

**Recommendation: That a molecular genetics council be formed to co-ordinate teaching and research in this area.** This council should be given the mandate to recommend the best organizational structure for this discipline, recognizing that the other biology departments in CBS and OAC will probably continue to be organized by taxonomic kingdom or commodity, and recognizing the interrelationship of molecular biology with both biochemistry and microbiology.

## Microbiology

This department has a very strong research program, but must strive to maintain a balance between its research and teaching programs. Several undergraduate offerings have been dropped from the calendar, using as a reason the unavailability of instructors.

Excellent synergy exists among Microbiology, Veterinary Microbiology and Immunology and the small group of microbiologists in Environmental Biology at the research level. A Microbiology Council already exists, involving these three departments and Food Science.

Co-operation in teaching programs is less close. For example, an interdepartmental graduate program in microbiology was recently abandoned for lack of interest. With the possibility of an imminent merger between VMI and Pathology, it would be worth determining whether any of the present VMI faculty would wish to consider a move to Microbiology.

**Recommendation: That the Microbiology Council co-ordinate programs, course offerings and hirings, and also determine the merits or otherwise of consolidating the microbiologists from Environmental Biology with Microbiology.**

In its progress report, the committee raised the possibility of merging Microbiology with MB&G. Neither department favored this suggestion, noting among other factors the problem of physical separation between the two departments and the difficulty of administering such a merged unit (factors that are downplayed in the proposed Human Biology/Nutritional Sciences merger). They also felt there was little synergy between the departments besides their use of similar equipment. Further discus-

sion of this issue should be left to the CBS Dean's Council.

## Zoology

This is the largest department in CBS and has developed a strong aquatic biology program. It has a very large graduate program and a large service teaching role. Some disciplines such as entomology, land animal ecology and other forms of terrestrial biology have been diminished because of the department's emphasis on aquatic biology.

The formation of the Animal Science Council should improve co-ordination and efficiency in teaching animal biology across campus. This council should assume responsibility for entomology and should therefore include Environmental Biology, which is chiefly responsible for Guelph's programs in this part of the animal kingdom.

At the graduate level, the committee received input that the number of course offerings was, in this exceptional case, too small to sustain the large graduate program. In the longer term, the Animal Science Council should have the responsibility of recommending reorganizations to the departments responsible for teaching and research in animal biology.

## Structures

An alternative suggestion to the present structure is to organize biology by level of organization — molecular, cellular, organismal, community — instead of the current organization into departments by taxonomy — humans, animals, plants, microbes (MB&G being the exception). We recognize that both types of interactions must occur in biology, so we do not recommend the replacement of one arbitrary method of organization with another.

The organization of biology is also complicated because of the strong applied biology focus of both OAC and OVC and the presence of biochemistry and biophysics in CPES. A specific suggestion from one group of faculty was the establishment of an ecology department (see Section 3.6).

**Recommendation: That the University of Guelph keep the "taxonomic" departments in biology for the moment, but use councils to oversee the co-ordination of course offerings and plant-, animal- and microbiological-related undergraduate majors; to co-ordinate hirings between parallel departments in CBS and other colleges; and ultimately to recommend whether changes in departmental structure are needed.**

## 3.3.3 College of Family and Consumer Studies

Since its establishment, FACS has been committed to applied, professional, interdisciplinary programs. In its response to the committee, the college described the "culture" it has cultivated as one that "maximizes the effectiveness of interdisciplinary units offering applied and professional programs; challenges and supports a community of multidisciplinary scholars with shared values; and values strong links with base disciplines and society stakeholders." It also emphasized its responsiveness to societal change and new demands from the professions it serves.

Some of the college's concerns, including issues of accreditation, admission criteria, articulation, experiential learning, career counselling and selection of faculty with industry/professional experience, are unique to professional programs. The committee received no support from either FACS or CSS for its earlier suggestion that these two colleges essentially be combined into a college of human resources and management.

The FACS response to the committee proposes a new name for the college that will better reflect the units it contains. Two possible names for consideration

are college of applied human and management sciences or college of applied professional studies.

Like their counterparts in CSS, departments in FACS have high student/faculty ratios and few degrees of freedom for the development of new initiatives. In the absence of a new resource-allocation mechanism to bring more flexibility for FACS, the alternative is to restrict student intake.

## Consumer Studies

Consumer Studies sees its logical home in FACS with its high-enrollment majors in both the B.Comm. and B.A.Sc. programs. The department expressed interest in combining with other units on campus that relate to marketplace, organization and management, but this interest is not shared by the other partners, who prefer to stay with the niche approach to business. The department desires to play a supporting role for the newly proposed MBA program.

**Recommendation: That the Business Council be given the responsibility of recommending the breadth of the University's programs in management.**

Consumer Studies has been hit hard by faculty retirements in recent years and is currently functioning with a large number of sessional faculty. The department does not support the progress report suggestion that it abandon all but the marketing major. Student demand for other majors is also compelling and is not expected to decline into the next decade.

The committee supports the department's move to eliminate the emphasis in clothing and textiles and suggests that resources be focused on the department's areas of strength in consumer behavior and marketing.

## Family Studies

This department continues its commitment to interdisciplinary, applied and professional programs at both undergraduate and graduate levels. It proposes a name change to better reflect its programs (a possible name is department of family relations and applied nutrition). It does not favor splitting off the applied human nutrition group because of the unique strength that exists in its interdisciplinary work with social scientists in the department and because of its accredited professional program, which logically fits in the B.A.Sc. program.

The department is interested in closer links with both the social (e.g., psychology, sociology) and biological (nutritional sciences) sciences and is actively pursuing collaborations with other universities and community colleges.

Imminent faculty losses from retirement in the next two years will be concentrated in applied human nutrition, and the department argues strongly that replacements are necessary to protect the graduate program.

**Recommendation: That hirings and course offerings be co-ordinated between the applied human nutrition group in Family Studies and the Department of Nutritional Sciences (or its successor).**

## School of Hotel and Food Administration

Strong support to maintain school status for HFAA was indicated in all responses from the school. HFAA is committed to offering the new MBA program and to developing new initiatives in tourism education (possibly in collaboration with Waterloo).

Its preference is to stay in FACS (with a new name), where it shares common culture and interests in applied, professional, interdisciplinary programs.

Strongly opposed to developing a business school at Guelph, HFAA favors the niche approach to business, with strong collaborations with partner units in the business area.

## 3.3.4 Ontario Agricultural College

OAC has just emerged from its own extensive strategic-planning process. This process produced, among other things, the Vision '95 curriculum, which offers the opportunity for unspecialized study in agricultural science. Goals of this new curriculum include a more deliberate incorporation of the learning objectives into the academic program and facilitation of interdisciplinary studies. To support this initiative, the OAC dean recognizes a need to "develop strategic alliances across campus," not only with other natural science departments outside OAC, but also with the arts and social sciences.

Concurrent with the development of the new B.Sc.(Agr.) program, several of the former, more specialized options have been replaced by new majors in other degree programs (B.Sc. and B.Sc.(Env.)).

## Agricultural Economics and Business

The department values highly its current interdisciplinarity and opposes any division of its functions in the areas of agricultural economics, agricultural business and natural resource economics. It is currently recognized as the leading agricultural economics department in Canada. Contribution to public-policy formation in the Canadian agri-food sector is considered an important part of its mandate, as is its participation in the OMAFRA contract.

The department rejects a suggested merger with faculty in the Department of Economics, partially on the grounds that it would reduce its visibility to its primary client group — the agri-food sector. It also notes that mergers between economics and agricultural economics departments at other institutions have rarely been successful, apparently due to discipline differences in research orientation and academic culture.

The committee clearly would not favor a forced merger of these departments, but believes that in the absence of such a merger, there is increased need for a formal mechanism to ensure that duplication of programs and course offerings is minimized, and that there is co-ordination between the departments with respect to hirings.

**Recommendation: That the respective responsibilities of the departments of Economics and Agricultural Economics and Business be the continuing responsibility of the Business Council (on which the two department chairs serve).** The committee notes that progress has already occurred in this area, in that the two departments have divided several areas of coverage such that Ag. Ec. and Business covers renewable resources and Economics does non-renewable; only Economics offers general micro and macroeconomic theory beyond first year; and Ag. Ec. and Business does accounting and Economics does finance theory.

## Animal and Poultry Science

An extremely strong research department, APS is unparalleled in Canada in the fields of animal breeding and production. Fifty per cent of faculty in the department are age 52 or older, suggesting that significant downsizing by attrition is a possibility in the near future. If this occurs, the department's ability to maintain its current large graduate student numbers will most certainly be compromised.

APS faculty currently have strong research links with OVC, Crop Science, Nutritional Sciences and Zoology (aquaculture).

**Recommendation: That opportunities to eliminate redundancies in undergraduate teaching (e.g., in animal physiology) between APS and other animal biology departments and to ex-**



pend the undergraduate teaching base of APS be identified through a strengthened Animal Science Council.

## Crop Science

Crop Science faculty are very successful in obtaining competitive research funding as well as attracting industry funding for applied research. These funds support a large graduate program. In common with other OAC departments, there is a strong international component to both the graduate program and co-operative research efforts. But limited undergraduate enrolment in the agronomy major results in underutilization of faculty teaching capacity.

Crop Science faculty have rationalized course offerings through the PBC and currently team-teach several courses with faculty from other departments. Even so, they believe they could contribute much more to teaching in the B.Sc. programs, especially the B.Sc.(Env.), given the opportunity.

Like Agricultural Economics and Business, Crop Science values its unique niche in the agri-food sector and would not welcome structural reorganization within plant biology that would reduce the department's "applied" focus. Nonetheless, a need to collaborate more effectively with plant science faculty in other departments is acknowledged.

Some areas of expertise are currently strongly represented in more than one plant science department (e.g., plant physiology, plant biotechnology), whereas unfortunate vacuums exist in other fields (e.g., mycology). The issue of co-ordination of teaching and hiring is addressed further under the PBC (Section 3.6).

## Environmental Biology

This is also a research-intensive department with very strong links to industry, but also a large and growing undergraduate enrolment. The department brings together faculty with diverse interests (chemistry, ecology, entomology, plant physiology, toxicology, etc.) to support an interdisciplinary, yet highly focused research mandate — the development and evaluation of pest-control products and methods, including the evaluation of pesticides' impact on the environment.

The success and current relevance of this mandate is clear; the department attracts generous public and private funding and has a very large graduate program. In particular, the plant-protection group is extremely strong, unique in Canada and of prime importance from the point of view of OMAFRA.

Along with these successes, the unique organization of the department has created challenges for OAC and the University. Most important, the self-sufficiency inherent in such an interdisciplinary biology department has naturally resulted in a degree of insularity. With respect to research programs, the focusing of 26 faculty members' research efforts on a relatively narrow aspect of agroecology (with only 19 faculty in Crop Science and 15 in Horticultural Science covering all other aspects of applied plant research) is an issue that OAC and the University must consider carefully, given the institution's special responsibility to agriculture in Ontario.

**Recommendations:** Because Environmental Biology's mandate cuts across those of several other departments, interdepartmental co-ordination with respect to hirings and course offerings through the appropriate councils is essential (see Section 3.6). The department should consider a merger with Horticultural Science, whose industrial contacts have commonality and which shares the same physical space, especially because this would allow co-ordination of rehiring, following forthcoming retirements in Environmental Biology. Responsibility for initiating this discussion lies with the dean of OAC.

## Food Science

Despite some past difficulties (such as the B-rated graduate program in the last OCGS review), Food Science is now well positioned to have a greater impact in the Canadian and Ontario agri-food sectors. The recent relocation to Guelph of federal and provincial government administration and research facilities, as well as the establishment of the Guelph Food Technology Centre (GFTC), should provide opportunities for University/government/industry interactions in the area of food science that will be unique in North America.

Success in obtaining competitive research funding has recently improved, especially among younger faculty who have replaced less research-active retiring faculty.

The department has pursued collaborative opportunities with several other units on campus as well as an articulation agreement with Durham College. Joint courses have been developed with Nutritional Sciences, VMI and the School of Engineering, and a large portion (about 25 per cent) of teaching is specifically in support of other programs (HAFSA, B.Sc.(Agr.), applied microbiology) or provides electives for other disciplines (arts, social sciences, business).

A need for additional expertise in the area of food microbiology to support the graduate program is being addressed by the committee of microbiology chairs (Environmental Biology, Food Science, Microbiology, VMI), but remains an important concern.

## Horticultural Science

This department values its external image and strong relationship with certain parts of the horticultural industry. Along with Crop Science and Environmental Biology, it endorses the PBC as the appropriate forum for effecting co-ordination of plant science teaching and research on campus (see also Section 3.6).

The committee is concerned about the long-term viability of this department as a teaching unit, yet recognizes its considerable research strength, especially in support of industry. The undergraduate program is currently underenrolled. Although faculty teach extensively in the diploma program, combined graduate and undergraduate FTEs are low relative to number of faculty.

Competition from government research institutions has to some extent forced research programs away from traditional applied work in horticulture; much current strength is in environmental plant physiology and molecular biology. With appropriate management, the Guelph Turfgrass Institute could provide additional opportunities for university/industry collaboration.

**Recommendation:** The reasons above suggest that a merger with Environmental Biology should be considered. These units have commonality in their industrial contacts and share physical space. Responsibility for initiating this discussion lies with the dean of OAC.

## Land Resource Science

LRS has evolved into a multidisciplinary unit with expertise in soil science, agrometeorology, geology and land resource management. Its primary focus is physical resources, with particular strengths in management related to agriculture. Its strong emphasis on soil science is unique in Canada, providing Guelph with a special niche in the environmental sciences. The small faculty complement (three) in agrometeorology is supported by effective collaboration with biometeorology at UBC and with the federal Atmospheric Environment Service.

Because of its strong agricultural focus and collaboration with other agricultural faculty, LRS is comfortable as an OAC department, but would endorse a

name change of the college to "agriculture and natural resources."

The committee's suggestion that soil scientists from LRS might choose to join with faculty from Crop Science to form a department of agronomy was not supported by LRS. It was noted that the agronomy major already provides an effective means of collaborating in teaching. In addition, no faculty from either department recognized barriers to collaborative research given the present arrangement.

Undergraduate enrolments have increased in recent years, especially in the natural resource management and earth and atmospheric science majors in the B.Sc.(Env.) program. Opportunities for enhanced collaboration in undergraduate and graduate teaching with Waterloo and McMaster, possibly via video link, are being explored.

**Recommendation:** That a closer working relationship between Geography and LRS would be in the best interests of both units. The division of responsibilities between the two units should be re-evaluated. Refer also to Section 3.3.7.

## School of Landscape Architecture

This school can be considered "interdisciplinary" in that it integrates knowledge from the natural and social sciences in a professional program in design.

Although applications to the graduate and undergraduate programs always greatly exceed the available spaces, the resource-intensive nature of the school's undergraduate program has recently forced a reduction in the first-year intake number, and "revenue" is approximately 20 per cent below operating costs.

Possible opportunities for revenue generation through continuing-education offerings are currently unexploited. External collaboration with both Waterloo and the University of Toronto is being explored, but it is doubtful if this will result in substantial financial savings.

The highly structured and unique academic programs in Landscape Architecture to some extent limit opportunities for collaboration with other units on campus. But potential for increased synergy with Rural Extension Studies and the University School of Rural Planning and Development exists. APC's suggestion of a complete merger of Rural Extension Studies, USRP&D and Landscape Architecture into a department of rural studies was poorly received, on the grounds that the school's professional programs in design would be inappropriately located in a department with a more decidedly social science focus. For further discussion, see Section 3.6.

## Rural Extension Studies

This department has no undergraduate major, but offers two service minors. Its participation in undergraduate teaching will, however, increase under the Vision '95 curriculum. The graduate program is unique in Canada, and several of its courses attract students from other programs. Research grants and contracts are well below average for the social sciences, and funding support for graduate students is limited. Nonetheless, supervisory loads are high, and international activity, both in terms of graduate student interests and research funding, is very high.

The department also endorses the plan for closer collaboration with USRP&D and Landscape Architecture, suggesting that it may strengthen Canadian-funded research opportunities and could result in some course rationalization. The committee has also recommended participation in a rural studies council to facilitate interaction with other relevant units (Section 3.6).

## University School of Rural Planning and Development

USRP&D also supports the plan for closer collaboration with Landscape Architecture and Rural Extension Studies, believing that the proposed name (faculty of rural planning, design and community development) and structure will provide many of the benefits of the merger into a single department proposed by the APC, while maintaining the visibility of the "planning" component necessary for accreditation and credibility purposes.

Under this plan, each unit retains its own director or chair, but one of them also serves as the chair of the faculty on a two-year term, with the mandate of promoting inter-unit collaboration in teaching and research, chairing P&T committees and serving on the OAC Dean's Council. In many ways, this model resembles a more formalized and empowered council structure, and many of its advantages could be realized without the creation of a new faculty per se, but these differences may be largely semantic.

## 3.3.5 Ontario Veterinary College

An issue for biological science education as a whole is the extent to which it is feasible to allow access by "regular" science students to the special expertise of OVC. At present, the existence of the special OVC timetable makes access to DVM courses impossible for B.Sc. students. Harmonization of course schedules between the DVM and B.Sc. programs should be discussed.

The OVC response to the committee indicates an openness to greater co-operation with the other science colleges, as exemplified in the college's own strategic planning document. The committee would not, however, favor access by B.Sc. undergraduates to the faculty-intensive clinical courses of the DVM program, on the grounds of cost. (DVM students bring more BIU income to the University for precisely this reason.)

## Biomedical Sciences

This department believes that a three-way merger of Human Biology/Nutritional Sciences/Biomedical Sciences may create too large a unit to be practical. The department already co-operates with Human Biology in offering the undergraduate bio-medical science B.Sc. specialization and wishes to retain this collaboration, whether Human Biology/Nutritional Sciences is located in CBS or OVC.

There is no sense that Biomedical Sciences wishes to fragment into pure science and professional (DVM-oriented) parts. Nor does the department wish to assume sole responsibility for the University's graduate program in molecular toxicology.

## Clinical Studies

Clinical Studies is an area so specialized that its teaching is necessarily restricted to the senior years of the DVM program. Some of the issues to be faced by any department of this type are the high cost of providing "one-on-one" instruction to senior students — while recognizing that this cannot be used as a justification for unlimited resources — and the extent to which a faculty member's clinical study of cases in the Veterinary Teaching Hospital can interfere with development of a scholarly research program.

## Pathology and Veterinary Microbiology and Immunology

Most of the work of VMI has tended to be in the research arena, with little teaching involvement in either the B.Sc. or DVM programs. Pathology has an active involvement in both B.Sc. and DVM teaching. It is widely regarded as



one of the best veterinary pathology departments in North America, but will shortly lose a significant proportion of faculty to retirement.

Strategic planning has stimulated the revival of a dormant plan to merge Pathology with VML. This is practical in that the departments occupy contiguous space; it would also allow joint planning for rehiring. If the merger proceeds, it would be practical to explore whether any faculty should relocate from VML to Microbiology.

**Recommendation:** That this merger proceed, subject to the departments developing joint staffing plans. Responsibility for overseeing the arrangements lies with the dean of OVC.

### Population Medicine

Population Medicine does not welcome a move to merge with other population biology groups in the near to medium future, arguing that the department is only just emerging from its "shake-down" period (because it was established only seven years ago). Nevertheless, the department and the college as a whole generally favor a greater degree of co-ordination among the various units involved with animal biology, and the department is already participating in the emerging Animal Biology Council.

### 3.3.6 College of Physical and Engineering Science

#### Chemistry and Biochemistry

The department values the interaction between chemistry and biochemistry; the synergy provides distinctiveness to Guelph's graduates in this area. For this reason, it does not favor merging the biochemistry group with, for example, the molecular biologists.

Curricula have recently been streamlined in an attempt to simplify student counselling.

Collaboration with Waterloo at the graduate level dates back to 1975 through a completely integrated set of graduate courses. Extension to the undergraduate level has already been undertaken on a trial basis as of fall 1994. This collaboration could probably be increased if Guelph and Waterloo synchronized their timetables and if sufficient interactive classrooms existed. It would be especially valuable for Guelph's co-op programs in biochemistry and chemistry if some of its spring semester offerings could be offered on a collaborative basis.

#### Computing and Information Science and School of Engineering

The suggestion that CIS and Engineering be joined may be impractical in the short term. Relatively few CIS faculty overlap with Engineering, and some of these will retire shortly. The problem is compounded because Guelph does not offer electrical engineering and because CIS has always felt a need to distinguish itself from the much larger computer science program at Waterloo. As a result, CIS has never been hardware-oriented.

An additional problem is that the engineering accreditation requires the school director to be a P.Eng., which would severely limit the choices of possible directors, both now and for the foreseeable future. Members of CIS also fear that the department's academic and research programs would be placed at risk in a merger where Engineering became the dominant partner.

Despite all these caveats, interaction and collaboration between CIS and Engineering already exist (shared courses, cross-appointments, joint graduate students). If a merger of the two were to occur in the future, it would have to be based on a long-term plan in which hiring practices of the units were co-ordinated in the area of mutual overlap.

In terms of the number of engineering majors, the school has already phased out agricultural engineering. Food engineering could be transferred to the Department of Food Science Department (with loss of accreditation) or reabsorbed into biological engineering, as was the case before 1989. In either case, continuing co-operation with Food Science will be needed. One respondent noted there is a great demand for food engineers in Canada and attributes the low student numbers in this program to a failure in student recruitment.

The newly instituted environmental engineering degree is currently very popular, but it will be important for Guelph not to lose its lead in this area to other later-entrant engineering schools. With a planned merger of water resources engineering with environmental engineering, the school would reduce the number of its programs to three.

**Recommendation:** That if the long-term goal is a merger of these two units, the CPES Dean's Council must develop a staffing plan consistent with this objective.

#### Mathematics and Statistics

The department argues forcefully and cogently that the direction of all science in the next century will rest on an increasingly mathematical foundation and that it would therefore be a mistake to reduce the level of mathematical and statistical expertise at Guelph, especially at the research level.

The department has recently increased its efforts to gain recognition in research, and its graduate programs are attracting a growing number of students. But the department acknowledges that, with the notable exception of Waterloo, small enrolments in mathematics and statistics programs are the norm in Ontario.

In the area of statistics, numbers of graduates from the honors program are small, but the department points out that most of the courses necessary for this program are also used for the much more popular diploma in applied statistics. Statistics at Guelph occupies an "applied" niche where its researchers are principally involved in applying statistical methodology to important problems in many fields, rather than seeing themselves as developers of statistical methodology.

The department already collaborates outside with Waterloo and Toronto, particularly at the graduate level. The overwhelming strength of Waterloo in mathematical sciences is perceived as a serious obstacle to offering collaborative programs with Waterloo (although presumably not for co-operatively offering specific courses where Guelph has particular expertise to offer). The department argues that a "comprehensive" university cannot abandon its programs in mathematics.

**Recommendation:** That immediate action is needed to develop the appropriate balance among range of programs, availability of resources (including rehiring) and collaborative opportunities for this department. Responsibility: CPES dean.

#### Physics

In the committee's progress report, comment was directed specifically to the small enrolments in the four undergraduate specializations in physics. The department argues that this variety is greatly welcomed by the student body, but says it is a no-cost option because all its courses are required to support honors science with a major in physics. This position is difficult for the committee to understand.

**Recommendation:** That this issue be resolved by the B.Sc. program committee in its ongoing program review.

Physics has a long-term collaboration with Waterloo at the graduate level, with the graduate programs completely inte-

grated. It is likely that collaboration at the undergraduate level would be possible if Guelph and Waterloo synchronized their timetables and if sufficient interactive classrooms existed.

Another area for action is the interdisciplinary biophysics graduate program. As noted in the CBS review, most of the students in this program are enrolled in Human Biology and do not take a significant part of their course work in Physics. This seems inconsistent with the students being awarded a physics degree.

**Recommendation:** That this issue be resolved by the interdisciplinary programs subcommittee of the Board of Graduate Studies (BGS).

### 3.3.7 College of Social Science

The need to maintain a College of Social Science was clearly articulated by numerous responses to the committee. Strong arguments were also advanced in support of maintaining strong disciplinary departments in CSS, where strong student demand exists for all social science programs.

Interdisciplinary work is seen as very important, and many examples exist in the college (women's studies program, collaborative international development studies (CIDS) graduate program, etc.). Several responses made the point that the lack of optimum levels of activities that can be described as interdisciplinary is due not to structural barriers but rather to lack of time.

The council structure is seen as an appropriate vehicle for supporting and encouraging new interdisciplinary activities (e.g., formation of the Cultural Studies Council was proposed). There was no support for the creation of a college of human resources and management, as suggested in the committee's first report, although the dean of CSS made a number of alternative suggestions for reorganizing the basic and applied social sciences. These should be revisited once any departmental reorganizations have taken place.

Several respondents indicated that the CIDS program should be maintained as it is within the office of the dean of CSS. Its current structure facilitates interdisciplinary work and should be maintained as one of the things we do well. The need to co-ordinate the rural studies area was identified and is addressed separately.

#### Economics

The department has strong teaching and research programs and does not favor a merger with Agricultural Economics and Business on the grounds that there would be no cost savings. Furthermore, a general economics department is the norm in any comprehensive university.

**Recommendation:** That the departments of Economics and Agricultural Economics and Business co-ordinate course and program offerings (to eliminate duplication) and hirings (to promote synergy), whether or not they remain as separate departments. Overseeing these activities should be the responsibility of the Business Council.

#### Geography

This department has strong programs at all levels, including the PhD. Enrolments in all programs are extremely healthy, with the exception of the B.Sc., and the new B.Sc.(Env.) degree has opened additional possibilities for undergraduate instruction.

Over the past decade, Geography has focused its programs on biophysical, resource management and rural resource fields. There are strong arguments for the department to stay as a cohesive unit because of the interactive nature of the components of its degree programs.

The department is not unhappy about its position in CSS, but rationalization among related units would suggest there may be an advantage in a merger with the geology, meteorology/climatology and resource-management groups of LRS. With a suitable renaming of this new unit (geographic and earth sciences?), Guelph could strengthen its offerings in the earth and atmospheric sciences and in natural-resources management at both undergraduate and graduate levels. This is consistent with these fields in the B.Sc.(Env.) program and should not affect enrolments in the BA program in geography.

The complement of human geographers whose interests lie primarily in rural resources could contribute to rural studies program(s), by cross-appointments if necessary, although their home department would probably remain in Geography. Should such changes come about, the appropriate college base for geographic/earth sciences would be an issue; one possibility would be CPES.

**Recommendation:** That discussions between Geography and LRS concerning the responsibilities of each unit be initiated and become a part of related discussions under the Environmental Sciences Council.

#### Political Studies

The department is in the process of rationalizing and streamlining its undergraduate and graduate programs, and is interested in interdepartmental course sharing, both at the introductory level and at more advanced undergraduate and graduate levels.

The department is involved in a collaborative MA program with McMaster and is a major participant in the CIDS program at Guelph. There have been preliminary discussions for other collaborative graduate programs with Waterloo, but it will be important for the department to focus its efforts and to pay particular attention to the vitality of its present collaborative activities.

The scope of undergraduate and graduate activities must necessarily be limited by the resources available in this current fiscal environment.

#### Psychology

Psychology is a strong and productive unit with some close ties to Family Studies that should continue to strengthen. The department has strong MA and PhD programs, including a joint PhD program with Waterloo in industrial/organizational psychology.

#### Sociology and Anthropology

Respondents universally supported the need to maintain this department because it represents a core social science discipline. There was no support for moving human biologists into a unit with anthropologists, nor for separating anthropologists from the sociologists in the current department.

Sociology and Anthropology is hoping to mount an honors major in anthropology. A new MA field in deviance and criminal justice is under consideration. The department is a major participant in the CIDS program and is involved in the new rural studies PhD program. This scope of activities appears reasonable in this current resource climate.

Because of the importance of rural sociology at Guelph and the need to be linked with other sociologists, the committee does not support moving the rural sociologists. The department indicated an interest in cross-appointments with FACS, History, Psychology and Rural Extension Studies.

## 3.4 Program Committees

Senate has given excellent mandates to program committees. We therefore do



not recommend changes, but do recommend that the Board of Undergraduate Studies (BUGS) monitor program committees to ensure they carry out these mandates. Too great a proportion of the effort of many program committees is currently being spent on the minutiae of course and program changes, and too little on the overall management of the degree program.

**Recommendation:** That members of program committees be appointed to be primarily responsible for guidance of the program and not to represent their departments. The role of departmental curriculum committee chairs would principally involve presentation of their local changes and innovations to the program committee.

It would then become the responsibility of the main committee to ensure that changes proposed by a given specialization or department did not adversely affect other specializations associated with the program, and that such changes are in keeping with the overall program objectives.

An advantage of this style of program governance is that the participation of many specializations in major programs such as BA and B.Sc. makes the size of the current program committees unwieldy, thereby inhibiting real debate on program goals.

In the case of the DVM program committee, the practice of engaging the whole college as a "committee of the whole" has the advantage of keeping OVC informed of program changes, in the sense of a college meeting. In another sense, however, it reduces participation at the faculty level by ensuring that the program is steered principally by the Dean's Council. The practice is therefore not endorsed by this committee.

## BA program

The committee received conflicting views about the desirability of creating two separate BA programs, one for humanities and the arts, the other for the social sciences. Briefly, those favoring a single program point to the liberalizing influence of a degree program that is rooted in both the arts and humanities and the social sciences. Those of the contrary persuasion argue that the scholarly methodologies adopted by the two groups do not marry into a cohesive program.

A specific problem appears to be the BA distribution requirements, which, as currently stated in the calendar (pp. 107-108), "are designed to provide the student with exposure to and some understanding of a range of disciplines." Although a review of the distribution requirements has been planned for some years, it lay dormant while the program was revised in 1993, and it is unclear how the distribution requirements actually serve meaningful program objectives.

In the case of mathematics and natural science, the global requirement of attaining "some understanding of a range of disciplines" is incompatible with the wording of requirement (c) on page 108.

**Recommendation:** That the BA program committee reassess the function and structure of the distribution requirements in the context of the University's learning objectives and any unique objectives of the BA program.

## Science programs

The abandonment of a common first year means that students increasingly feel obligated to commit themselves to a specialization on entering the University of Guelph. Although it is straightforward to change specializations within a degree program, many students seem unaware of the opportunities to change degree programs.

Among the group B.Sc., B.Sc.(Agr.), B.Sc.(Env.) and B.Sc.(Eng.), it is important that credit for study at the first-year

level in one of these programs be recognized — and be seen to be recognized — as acceptable for entry into Year 2 of a different science program with a minimum of roadblocks. The suggestion from CBS of a formal mechanism to ensure co-ordination between these degree programs and the "science" colleges (CBS, CPES, OAC and OVC) is strongly endorsed by the committee.

**Recommendation:** That this co-ordination be the responsibility of the four science deans or their designates.

In the case of the B.Sc. program, the "course requirements" fulfil a function similar to that of the BA distribution requirements. With the passage of time, the common first-year has been gradually eroded; advances in biology, in particular, call into question the need for a series of taxonomic courses to be the student's first exposure to this discipline.

**Recommendation:** That the B.Sc. program committee reassess the function and structure of the course requirements in the context of Guelph's learning objectives and any unique objectives of the B.Sc. program.

## 3.5 University Time

As noted in the previous section, there have been many calls for the institution of "University Time." There are two different ideas under this umbrella term.

First is the notion of a period in the week that would be free of scheduled classes and University committee meetings. This period — at least two hours a week — should be available for departmental and cross-disciplinary seminars and to initiate the kind of cross-pollination that sustains the highest levels of intellectual vigor and creativity.

The second proposal, emanating from the Academic Restructuring Committee, is that faculty should not owe all their teaching time to their disciplinary department. Rather, they should have the option to teach in a cross-disciplinary program that interests them, or alternatively, the University should have the right to direct part of their teaching into another department or program where their talents are needed.

This should be undertaken after careful study and consultation, so that it does not result in an uncontrolled transfer of resources out of programs that may already be under serious strain in terms of teaching capacity. Such a system would have to be consistent with the resource-allocation mechanism.

One advantage of University Time is its potential to ensure that interdisciplinary programs that under the present scheme of things are underfunded (such as women's studies) will in the future have resources commensurate with levels of faculty (and student) interest.

A disadvantage of leaving the option of participating in cross-disciplinary teaching in the hands of the individual professor is that tension may arise between the faculty member and his or her chair in the assignment of teaching duties. Furthermore, not all professors have the same interest in cross-department teaching or the same opportunity to participate, so a fixed percentage of time could not be applied to all faculty.

The majority — but not unanimous — view of the committee was that a resource-allocation system such as Model 2 would remove this problem by ensuring that a department's contributions to cross-departmental activities were properly recognized in terms of resource entitlement.

**Recommendation:** That a practical method be devised for implementing the above concepts of University Time. Responsibility: academic vice-president and JFPC.

## 3.6 Interdisciplinary areas and new initiatives

### 3.6.1 Introduction

In 1992, Prof. Norman Gibbins, Microbiology, wrote a discussion paper on "Interdisciplinary and Multidisciplinary Programs: Enhancement of Department and Faculty Participation," in which he made a number of important recommendations, including one to create "University Time." In this document, Gibbins made the following observation regarding the role of faculty in a university:

"Scholars within the University should not feel intellectually constrained by their relationship with the institution and its sub-units. The primary allegiances assumed by a professor on appointment are to scholarship, to the University and to society at large. No priorities are offered, as the allegiances are mutually fulfilling. The perception that primary allegiances should be to a department or college (or even to a discipline) is misplaced, as these are simply arbitrary contexts, intellectual and physical, within which the professor pursues scholarship. While they are critical to the ambience in which the professor operates, they are not an intellectual or academic objective in themselves, and neither should they be constraints to intellectual and scholarly development. The possibility for involvement of the professor in a broad range of academic initiatives within the developing multidisciplinary milieu of the University should always be present."

The committee heartily endorses this statement and recognizes the mutual responsibilities implicit in the relationship between the individual faculty member and the collective University — that of the faculty member to pursue scholarship independent of arbitrary boundaries and that of the University to provide a context within which such scholarship is fostered and facilitated. Far too frequently, faculty and the University both fail to measure up to these responsibilities, and in this report we concentrate on the latter.

In the final analysis, the University's academic and administrative structures exist only to serve faculty and institutional goals. And although structure should serve function, the many diverse functions of the University virtually guarantee that any overall structure will necessarily be a compromise.

The summary of department and college activities contained in this report shows very clearly that Guelph's academic, administrative and policy-forming structures are not ideal in supporting activities that involve more than one unit or cut across unit boundaries. There are at least four situations that must be explored and dealt with.

First, there are examples of real or potential duplication of department and faculty mandates. Wherever this redundancy is necessary, activities should be co-ordinated across unit boundaries; where it is unnecessary, it should be eliminated. An example of this category is the four departments involved in plant biology.

Second, there are several cases where departments have contiguous roles, perhaps with some overlap, and there is a question as to how much co-ordination of activities is desirable. Frequently, these cases are found in pairs of "discipline-based" and "applied" departments such as Geography and Land Resource Science, and Economics and Agricultural Economics and Business.

The third type of case is that of true multidisciplinary activity involving faculty from different disciplines (usually, but not always, in different departments), and the challenge is to eliminate impediments that inhibit such activities.

Examples of this include environmental science and the general area of food.

The fourth case is one where faculty members who approach a particular area of interest from a different disciplinary perspective are (sparsely) located in different departments, yet share a common responsibility. Toxicology is an example of this.

### 3.6.2. Councils

Collaboration within the University ranges from the kind of informal co-operation between individuals frequently manifest in the area of research to formal vertical structures like departments and colleges, which attempt to serve a relatively diverse, yet cognate set of functions.

Recently, our organization has become even more complicated as we have developed a structural matrix, a set of overlapping, co-existing structures, to serve a diversity of functions. The creation of several "councils" has been seen by many respondents to our progress reports as an effective way of dealing with many cross-unit activities, in spite of the increased bureaucracy and diffuseness of responsibilities. The committee sees no viable alternative to the creation of cross-cutting structural units to co-ordinate the multidimensional spectrum of responsibilities and interests in Guelph's teaching and research activities.

A number of different lateral structures have been tried in recent years, such as the Plant Biology, Business and Food councils, the Faculty of Environmental Sciences and the Office of First-Year Studies. The committee supports these initiatives and the possible addition of several other units, three of which have emerged during the strategic planning process (the Animal Science, Cultural Studies and Toxicology councils), as well as consideration of the creation of one or two institutes to bring even more formality to the lateral organization of our activities. Each council should have well-defined goals and responsibilities.

The committee has not been prescriptive in developing suggestions for structures to deal with interdisciplinary, interdepartmental and multidisciplinary activities, whether ongoing or new initiatives. We recommend instead that responsibility be given to the councils to co-ordinate structural change.

It is important, however, that this not be seen as a way of evading or unduly delaying change. Deadlines for establishing plans and for implementing them must be set and enforced. The appropriate chairs and deans must be held accountable for progress towards the desired ends.

It will frequently be crucial to the success of these councils that a senior administrator be appointed to act as a "facilitator" to ensure that progress is made and momentum maintained. This approach has been used successfully in the formation of the Plant Science and Business councils (both facilitated by the academic vice-president) and the Food Council (facilitated by the dean of OAC).

**Recommendation:** That present and proposed councils be given their responsibility to co-ordinate interdepartmental activities and, where appropriate, to co-ordinate faculty and staff hiring.

For those parts of departmental undergraduate activities within the council's purview, the following responsibilities currently vested in the departments should be transferred to the council: responsibility for the development, curriculum design, student advising and administration of majors, minors and specializations given by the member departments; and responsibility for faculty teaching assignments for courses given by the member departments.



The composition of each council should, at minimum, include the chairs and deans of member departments and colleges. They might be chaired either by these individuals in rotation or by a specially appointed program co-ordinator. One dean should be appointed ("designated") to represent the council on VPAC.

One of the responsibilities of each council should be to determine whether, or at what rate, co-operation between units should evolve towards merger of departments. A senior academic should be appointed as "facilitator" to monitor progress towards the council's specific goals.

Councils should be reviewed every five years to determine whether they are meeting their mandate and whether there is a continued need for their existence.

During debate on the council concept by SPC, it was argued that the introduction of numerous new councils would greatly increase the administrative load in the University by adding a new layer of bureaucracy. The committee's view is to the contrary; the chairs of member departments are already line managers, so this layer of bureaucracy already exists. The introduction of councils is seen as a mechanism for formalizing the consultation and collaboration that, in an ideal world, would already be occurring among their units.

Nevertheless, it is true that certain chairs and deans may be involved in the activities of a large number of councils, greatly increasing their workload. A corollary is that the criteria for choosing deans and many chairs will have to include breadth of vision, as opposed to narrow disciplinary focus, if they are to function successfully on councils.

The issue of councils increasing the workload for chairs and deans is a symptom of a deeper problem — the expectations the University has of academic administrators such as chairs and deans. They are given the responsibility of managing large numbers of faculty and staff and, at the same time, are expected to remain active in teaching and scholarship, both to retain credibility among their colleagues and so they may return successfully as teachers and scholars following their administrative terms.

For this reason, it is impossible for academic administrators to devote themselves fully to the complex job of running a college or a large department and co-ordinating interdepartmental activities with the chairs of cognate departments. Unless this problem is resolved, neither the council concept nor interdepartmental activities will ever reach their full potential on this campus.

Some relief may be given to chairs through the provision of postdoctoral fellows to assist with research; through the delegation of authority to curriculum committees, graduate officers, etc.; and through the use of administrative officers to carry out activities such as budget preparation and assignment of teaching assistants. But issues of academic leadership will necessarily remain the responsibility of the chair.

It was also pointed out to the committee that a large number of councils are proposed or existent in the biological sciences, compared with other areas. The committee's response is that this is a reflection of the size and complexity of the life sciences at Guelph, thereby necessitating co-ordination of this activity. In addition, it must be remembered that deans' councils exist to co-ordinate activities that occur entirely within a single college.

In suggesting that councils co-ordinate hiring in their areas of expertise, the committee recognizes that if the council itself were given the authority to hire, a newly hired faculty member might end up foisted on an unwilling department. To avoid this situation, the committee intends that "co-ordinate hiring" be construed to mean that the council (which, it will be recalled, comprises the chairs)

would determine the scholarly area in which hiring was to occur and the department that was to be responsible for making the appointment, with at least one member of the search committee elected/appointed through the council ("to see fair play").

After approval by the academic vice-president, the hiring process would take place through a department in the usual way. But the committee also intends its recommendation on this subject to mean that the academic VP would not give approval for a search to begin without approval of the course of action by a relevant council.

### Animal Science Council

The committee welcomes the establishment of this new council, participation in which involves the chairs of Zoology (CBS), Animal and Poultry Science (OAC) and all departments of OVC. It would be desirable to also include Environmental Biology because it is in that department that the University's strength in entomology resides.

As in plant science, Guelph has enormous strength in pure and applied animal biology, and co-ordination in this area is important. In time, the committee strongly hopes that cross-college teaching will, for example, allow the exposure of students in the DVM program to the expertise of OAC faculty in animal breeding.

**Recommendation:** That as a first step, the Animal Science Council be given the responsibility for co-ordinating undergraduate courses and programs, with a view to maximizing efficiency of program delivery and eliminating duplication, and for co-ordinating hiring. This council should have the specific responsibility of recommending departmental realignments in the broad area of animal biology. Co-ordination of the graduate program in aquaculture should also reside with this council.

### Biomedical Sciences Council

This council exists principally to co-ordinate the successful new undergraduate specialization in bio-medical science. It currently involves the departments of Biomedical Sciences and Nutritional Sciences and the School of Human Biology. In the event of a successful merger between Human Biology and Nutritional Sciences, it may be unnecessary to continue a council with a membership of only two departments.

### Business Council

The Business Council has been one of Guelph's most successful attempts to break down the barriers between departments. The successes include the recent revamping of the B.Comm. undergraduate program through co-operation among the departments of Agricultural Economics and Business, Consumer Studies, Economics and HAFA. This effort has also led to the development of two niche MBA programs — and all of this in times of decline in faculty numbers and increases in student interest in the various programs offered by the departments.

In its progress report, the committee tested the waters to see if there was any support for a more formal structure to carry the initiatives further. There was opposition to this approach from many quarters, so the committee simply recommends that the work of the Business Council continue, noting that there would be great value in pursuing the initiative already begun to collaborate with nearby universities (e.g., between HAFA and Waterloo in the area of tourism).

We also foresee that there will be great pressure to include "business-type" experiences for students from other programs. This exposure could run all the way from the addition of a few courses to a program through to the addition of a

complete year of such courses as part of a five-year program. Such initiatives would, however, have significant resource implications.

### Cultural Studies Council

A large amount of activity in this area already exists in the colleges of Arts and Social Science, but has so far not been co-ordinated. Supporters of cultural studies suggest that it could "reorient academic practice across undergraduate, graduate and research activity" in these colleges.

Aspects of cultural studies are already evident in women's studies, Canadian studies, Scottish studies and European studies, and there is faculty support for further such initiatives in native, post-colonial and American studies. Proposals for a chair in cultural studies predate the establishment of SPC.

**Recommendation:** That cultural studies be developed as an umbrella term for the different forms of interdisciplinary study and research currently being undertaken in the arts and humanities and social sciences at Guelph. It would be anticipated that over time, the responsibility for mounting the University's programs in women's studies, Canadian studies, Scottish studies and European studies would fall to this council.

Women's studies stands out as a program that has not reached its full potential, both because of insufficient resources and because insufficient synergy appears to have developed among the scholars and departments responsible for offering the various courses in the program. Women's studies may be an example of an area where good intentions with respect to an initiative have not been backed by resources. In this, as in other cases, the committee is firmly of the opinion that what we do at Guelph, we should do well, and that offering programs in our calendar must imply a commitment to them.

### Ecology (see also Section 3.3.2)

Guelph has offered undergraduate programs in ecology for many years; these are currently housed within both the B.Sc. and B.Sc.(Env.) programs.

At the research level, the University has both a strong tradition and a well-recognized group of ecologists and evolutionary biologists who, inevitably, are dispersed among the "taxonomic" departments. In the late 1980s, a CBS Ecology Advisory Committee even recommended reorganizing biology along thematic lines, with the establishment of a separate ecology department.

As noted in Section 3.3.2, the committee does not favor this proposal, believing that it merely substitutes one arbitrary and unsatisfactory structure for another. Nevertheless, we recognize the importance of promoting synergy among biologists whose interests lie at the level of organization of ecology and population dynamics.

To this point, no champion of an ecology council has come forward, but the committee would welcome such a development.

**Recommendation:** That the academic vice-president bring together potentially interested ecologists to determine whether an ecology council is a viable means of co-ordinating activities in ecology on campus.

### Environment Council

Five years ago, the University made a decision to build on its many strengths to develop programs in environmental science, to complement the more common environmental studies programs at a number of other universities. The B.Sc.(Env.) program was developed as an initial step remains perhaps the best example of a broadly based environmental science degree in Canada. The program draws on all sectors of the Uni-

versity, including courses in the College of Arts (philosophy) and CSS (geography, economics and political studies).

The University created the Faculty of Environmental Sciences to administer and co-ordinate the undergraduate degree program and to promote the range of environmental programs offered at Guelph. The faculty is the home base for the director of the Institute for Environmental Policy and three major interdisciplinary research initiatives — the Tri-Council Research Program in Agroecosystem Health, the Tri-Council Chair in Ecosystem Health and the Computing Research Laboratory for the Environment.

The committee considered a number of options for the Faculty of Environmental Sciences, including the formation of a separate college, inclusion in a new college of agriculture and environment and abandonment of the faculty altogether. After debate with SPC, the committee supports the concept of continuing the Faculty of Environmental Sciences (i.e., ordinary faculty members), but also of creating a council of chairs to co-ordinate activities in this area.

Creation of an environment council could accommodate "non-science" units with interests in the environment, such as the environment major within the BA program. Because the council would involve so many colleges and departments interested in the environment and would be unwieldy, the committee recommends keeping the present Senate-mandated Environmental Science Council as an executive group to co-ordinate much of this activity.

The position of the associate dean of environmental sciences is unique within the University. There was little support for the committee's earlier suggestion to enhance this position to that of a full dean. Options include, besides the status quo, elevating the associate dean to sit on the University's various formal and informal administrative bodies and eliminating the position altogether. The latter approach would bring the environment council into line with other councils, but the committee recommends that an associate dean be retained for Environmental Sciences because of the separate degree program.

**Recommendation:** That the faculty with its current format be continued as the approach for developing integrated programs across campus and that an environment council, comprising chairs and deans of the participating units, be established to co-ordinate these activities.

In making these recommendations, the committee recognizes the opportunity for increased involvement on the part of several departments in both undergraduate and graduate aspects of environmental science. The environment council would be responsible for co-ordinating teaching assignments in courses offered in the B.Sc.(Env.) program and for co-ordinating hirings in environmental science, natural resources and environmental planning. The development of a resource-allocation model with the features of our Model 2 would provide a more enduring resource base for these activities.

### Food Council

Since its creation almost five years ago, the Food Council has served as a link between the many departments on campus that have a role to play in the area of food, clearly one of the University's areas of special responsibility. At the centre of this activity is the Department of Food Science, which continues to develop and mature, greatly aided by the recent appointment of a number of research professors.

The recent relocation of federal and provincial government administration and research facilities, as well as the establishment of the highly innovative GFCT, should provide many opportuni-



ties for fruitful collaborative ventures among University of Guelph, government and industrial sectors.

The departments constituting the Food Council have not yet participated to an equal extent in its activities, nor has there been balanced involvement of GFTC in undergraduate, graduate and research matters. With the proposed merger of Nutritional Sciences and Human Biology, a changed role for the former department within the Food Council might emerge. Similarly, Consumer Studies may need to focus in areas that emphasize marketing and consumer behavior, but perhaps not specifically in the area of food, and this might affect the activities of the Food Council.

There are other staffing concerns as well. Within Family Studies, the applied human nutrition division will experience a loss of some leading staff through retirement. There is already a shortage of food microbiologists due to recent retirements in Food Science, Microbiology and Environmental Biology. This is a problem that might also be addressed by the Microbiology Council.

**Recommendation:** After paying much attention to the area of research and the interface with industry, the Food Council should now pay more attention to undergraduate matters, where the situation is characterized by relatively low enrolments and relatively rich course offerings in each of the food-related undergraduate programs, an exception being applied human nutrition.

## Human Sciences — Human Health and Well-Being

Many respondents to the committee's first progress report questioned whether this (former) strategic direction makes sense for Guelph, on the basis that no medical school exists here. This area already has a council structure (Health Sciences Council), but this has not been active recently, its inactivity began when the "designated dean" for this area went on leave.

If a council-managed area falters with the departure of a single individual, this suggests there may not be a serious commitment to the concept by the rank-and-file members. Clearly, one could refocus this interaction, possibly around a theme of "the family," in recognition of the University's strengths in the family, child and gerontology areas, but the committee sees limited value in this approach, given that this is the mandate of the present Department of Family Studies.

**Recommendation:** That the Health Sciences Council be given six months to present any case for its continuance and otherwise be disbanded or merged with the Biomedical Sciences Council. Action: Vice-President, Academic.

## Microbiology Council

Microbiology is a cross-department activity that takes place in the departments of Microbiology (CBS), Environmental Biology (OAC), Food Science (OAC) and Veterinary Microbiology and Immunology (OVC). All four departments, together with Molecular Biology and Genetics, co-operate in mounting undergraduate courses through an informal Microbiology Council consisting of the chairs.

Extensive co-operation between Microbiology and VMI, in particular, occurs at the research level, but the interdepartmental graduate program in microbiology was recently removed from the graduate calendar for lack of interest.

**Recommendation:** That the Microbiology Council continue its work in co-ordinating the University's activities in microbiology. This group should have responsibility for determining whether any consolidation of micro-

biologists into a smaller number of departments should occur.

## Molecular Genetics Council

The field of molecular biology has revolutionized teaching and research in all areas of biology and has spawned the growing biotechnology industry, an area highlighted by SPC's Task Force 1. At universities with medical schools, such as Toronto and McMaster, strength in medical genetics and biotechnology has been achieved by concentrating the researchers into research institutes such as the Ontario Cancer Institute. These are strong because they have a critical mass of research talent and strong infrastructure support.

There is currently no university in Canada that is particularly strong in biotechnological approaches to problems in agriculture or the environmental sciences. This suggests an opportunity for Guelph to make a mark, given its strength in biology generally and in animal and plant biotechnology in particular.

The Department of Molecular Biology and Genetics was formed 10 years ago to establish a strong teaching and research unit in the field of molecular genetics and to provide a "service" role to the wider community of biologists on campus (whose primary focus was not molecular genetics, but who required the use of these techniques). The increasing intensity of competition for research funds in the field and the increased emphasis on collaborative research proposals by major funding agencies, together with the increasingly high costs of infrastructure, are making it progressively more difficult for individual faculty to secure research funding.

All the above factors point to the establishment of a co-ordinating group in the field of molecular genetics, a molecular genetics council. Inevitably, there would be a degree of overlap in the membership of this council with those of the Animal Biology and Plant Biology councils. This duplication is minimized by proposing a molecular genetics council rather than a molecular biology and genetics council, which would imply the inclusion of traditional animal and plant breeders (to the extent that this distinction is valid today).

**Recommendation:** That a molecular genetics council be formed with responsibility for co-ordinating the acquisition, housing and maintenance of research equipment infrastructure. It would also be responsible for co-ordinating teaching programs, especially at the graduate level, and would co-ordinate hiring among the departments with interests in the field of molecular genetics.

## Plant Biology Council

The University of Guelph has major responsibilities for teaching, research and service in the plant sciences. In Ontario, Guelph is the only university with the full range of capabilities to link basic and applied teaching and research with service to the agricultural industry, horticultural industry, forestry, recreation and natural ecosystems management.

The discovery of new knowledge and its integration with worldwide advanced research are critical to this role and to the reputation of the University as a place for plant scientists to work and study. The application of new knowledge to plant production and ecosystem management and problem solving is crucial for the continued support of the institution by the governments and people of Ontario and Canada.

Guelph must foster basic and applied plant biology to fulfil these special responsibilities. To do this will require a concerted unified approach to the maintenance and improvement of competence and infrastructure. It is APC's view that current structures and programs may not facilitate the fullest realization of the University's potential in plant biology.

The Plant Biology Council has provided leadership in the recent evolution of undergraduate programs and in other co-operative efforts. These efforts might develop further if the University considered establishing a plant biology institute with core members drawn from faculty in the departments of Botany, Crop Science, Environmental Biology and Horticultural Science. Some members of LRS and MB&G would also be core members of the institute, along with affiliated members drawn from other Guelph departments, such as Chemistry and Biochemistry, Food Science, Geography and Landscape Architecture; from nearby universities, including Waterloo, Laurier and McMaster; and from federal and provincial institutions.

A plant biology institute would have a major responsibility for the basic research and graduate programs in plant biology in collaboration with participating departments, might seek funding for shared capital facilities and major infrastructure and might link with other institutions in Centres of Excellence proposals.

The current PBC should continue, as a council of chairs, to co-ordinate hiring and administer the undergraduate programs in plant biology. It should also take the lead in exploring the consolidation of departments (e.g., Environmental Biology with Horticultural Science) or, at a minimum, ways of achieving better collaboration in administrative matters and improved co-operative efforts among faculty, technical staff and administrative/clerical staff.

## Rural Affairs

One of the unifying themes of the University of Guelph is the rural character of much of what we do and the style in which we do it. The rural nature of the institution does not, however, translate into a major commitment to rural programs, nor do we employ large numbers of faculty whose scholarship is predominantly of a rural nature.

Our strength is found in two relatively small units, Rural Extension Studies and USRP&D, whose activities are primarily focused at the graduate level, and a number of other units whose rural nature is partial, either in terms of the content of their programs or in terms of the faculty numbers involved. These include the departments of Geography, Sociology and Anthropology, and Family Studies and the School of Landscape Architecture.

The recently approved PhD in sustainable rural communities is an example of collaborative effort among "rural" faculty at Guelph. A Council on Rural Communities, chaired by a designated dean, has recently been formed to lead the PhD effort and to co-ordinate this activity with those of the Sustainable Rural Studies Committee.

Given the pervasive nature of the University's rural character, it is natural to consider this activity as "strategic," and several respondents to our progress reports did indeed suggest a variety of structures that would enhance the rural theme. The committee believes there is a need to bring more focus and co-ordination to our rural activities before expanding our effort in this area. This might well be greatly facilitated by an administrative reorganization, which would bring units into closer contact to enhance sharing of resources and responsibilities.

For the past two years, USRP&D, Landscape Architecture and Rural Extension Studies have discussed the issue of collaboration and the formation of a faculty of rural planning, design and community development. The group has proposed that the chair of this faculty would rotate among the directors of the three units. The maintenance of the professional identity of two of these units (USRP&D and LA) was identified as a major concern in developing this proposal.

**Recommendations:** That a faculty of rural planning, design and commu-

nity development be established, involving individual faculty from interested units; and that a rural affairs council be established, with membership to comprise the chairs/directors of participating units. A facilitator should be appointed to guide this group towards administrative merger, while retaining the integrity of the professional programs.

A second reason for a measured approach to enhancing our commitment to rural matters is the nature of the current activity, because the present funding formula makes it difficult for a graduate program to be financially viable on its own. The faculty, presuming its formation, might consider the development of an undergraduate program rather than growth in the graduate area (at least if new resources are required to feed the growth).

The committee urges, however, that the faculty weigh carefully whether there is a real opportunity for increasing the commitment to undergraduate programs before proceeding. The value to the three units would be their increased financial viability through the creation of a solid undergraduate base, and the undergraduate programs would provide much-needed opportunities for GTAs.

Although a collection of appropriate undergraduate courses is already offered by the many departments with a "rural" component, it is unclear whether these courses alone could be assembled into a coherent and unique undergraduate major that would be attractive enough to students to justify its creation and the effort to sustain it.

## Toxicology

Toxicology is an interdepartmental activity under the direction of a co-ordinator. Both undergraduate and graduate programs have been established, each of which is run by a management committee that has some of the functions of a council. As part of strategic planning, faculty in this area were asked to comment on the desirability of forming a separate toxicology department; this was not favored, on the grounds that the faculty involved did not wish to loosen their links with their present colleagues.

Recently, a group more closely approximating a council has been established; this comprises the chairs and deans of the relevant departments and colleges, plus the toxicology co-ordinator. The committee supports this development as bringing the management of toxicology more into line with that of other interdepartmental disciplines.

**Recommendation:** That the Toxicology Council be formally established and be given responsibility for co-ordination of hirings in toxicology.

At the graduate level, a collaborative program has been offered since 1990, but there have never been sufficient faculty to offer a defined set of graduate toxicology courses. Many graduate students working on toxicology-related projects find no advantage in registering in the collaborative program and remain associated with the supervisor's home department.

Having raised the issue in our progress report, the committee agrees with several respondents and now rejects the possibility of subsuming the graduate "fields" of toxicology into the programs of Biomedical Sciences and Environmental Biology. It has been suggested that the graduate program move over the next five years from a collaborative program to one that is separately appraised by OCGS, an objective that is supported by the committee.

In the area of research, Guelph is the headquarters for the Canadian Network of Toxicology Centres (CNTC), and in general, this greatly increases our profile and opportunities. But the goals of this national research network are not well integrated with the University's academic programs, so we have not lene-



fitted as much as we might have from CNIC's existence at Guelph.

**Recommendations:** That an objective be to develop within five years a graduate program that is separately appraised by OCGS and that the Toxicology Council be given the responsibility for greater co-ordination with CNIC to maximize the impact of toxicology on campus.

## Departmental realignments

As noted already, the committee does not wish to be prescriptive in this area. The preceding discussion has, however, noted a number of cases where discussions about realignment, changes in administrative organization, hiring of staff and faculty or co-ordination of course and program offerings should be undertaken in the reasonably near future. To summarize, these are:

- VMI/Pathology
- Nutritional Sciences/Human Biology
- Land Resource Science/Geography
- USRP&D/Landscape Architecture/Rural Extension Studies
- Economics/Agricultural Economics and Business
- Environmental Biology/Horticultural Science

**Recommendation:** That these potential realignments be facilitated by the academic vice-president or designate, that they involve any relevant council and that a timeline for a decision be set by the facilitator.

## 3.7 Research

The University has perceived itself as "research-intensive," which was stated in the report "Guelph As a Research-Intensive University" to mean that the University's level of research activity is above the Canadian average. Any changes to Guelph's structures must not compromise Guelph's commitment to a high level of high-quality research and scholarship. It is especially important that the University's reward system (P&T) attempt to prize high quality and true innovation in scholarship rather than mere quantity of output.

On the issue of the relationship between teaching and scholarly activity, the committee recognizes that scholarship and teaching are to be seen as a seamless whole. Nevertheless, an area of possible conflict was noted in that a decision to offer a large number of undergraduate courses can stand directly in the way of successful research programs. Furthermore, the OCUA report on university financing suggests that the province favors an increased emphasis on teaching; the corollary is that research infrastructure and the time for faculty to do research will diminish.

Ultimately, research and scholarship depend on four prerequisites — time to do research, library access in support of research, space to carry on research and provision of necessary equipment infrastructure for research.

The committee debated what is meant by enhancing interdisciplinary teaching and research. One perception is that many faculty believe that P&T policies strongly reinforce departmental/disciplinary boundaries and tend to disfavor interdisciplinary activity. Interdisciplinary activity is more highly regarded in those departments that are by nature interdisciplinary. It might therefore be argued that interdisciplinary activity might be stimulated by grouping people who are now in "related" departments in the same department or college, thereby capturing in a single unit what today is interdisciplinary. There are many drawbacks to this approach, including:

- Regular institutional self-examination of departmental structures would be needed as research priorities change, and disruption would be

caused by frequent structural reorganization.

- This approach does not encourage interdisciplinary activity across the board; it leaves the University "managing" which interdisciplinary directions will be encouraged. This may be justifiable in the context of "strategic directions," but does not address the wider issue of interdisciplinary inquiry. We question whether it is even possible to manage activities that rely on the initiatives of "grassroots" individuals.
- Research interactions are often short- or medium-term, with faculty groups forming and dissolving according to changing opportunities for funding and changing perceptions of where the most interesting problems are to be found. The University's structure should therefore relate first to teaching programs, because these usually have a longer lifetime, while accommodating the different research needs and aspirations of department members.

**Recommendations:** That the University of Guelph recognize and reward the principle that interdisciplinary research is the equal of specialized disciplinary scholarship, subject always to the same criteria of quality; and that the University find mechanisms to make available the necessary time to write major interdisciplinary research proposals and the seed funding (research enhancement funds) to get these activities started.

It is a dismal reflection that in times of fiscal restraint, the teaching and research enhancement funds were among the earliest casualties. It is difficult to recommend removing resources from other activities to reinstate the enhancement funds if they become the first and easiest targets in the next time of restraint. Nevertheless, we believe these funds have played — and should continue to play — a vital role in promoting innovation in the institution.

## Research centres and institutes

Besides traditional disciplinary departments such as English and Physics and non-traditional departments such as Family Studies and Environmental Biology, Guelph has established various other structures directed principally towards research. These include free-standing structures such as the Equine Research Centre, the Guelph Turfgrass Institute and the Toxicology Centre; research-focused groups principally within a department, such as genetic improvement and industrial psychology; and time-limited research teams such as animal biotechnology and the Networks of Centres of Excellence.

In a time of hard fiscal choices, Guelph must decide how much of its resources should be spent on the departments (both traditional and non-traditional) and how much on centres, interdepartmental research groups and so on. It is the committee's hope that a funding-allocation model such as Model 2 be used to determine the real needs — and the University's ability to meet them — of centres and institutes better than the present ad hoc system of allocating resources to various activities.

## Infrastructure and the management of research

The report "Guelph As a Research-Intensive University" recommended the formation of an advisory group to identify areas of potential research opportunity. This recommendation suggests that research should be managed rather than left as an individual entrepreneurial/scholarly activity.

In reality, of course, the University already manages some research directly (e.g., the OMAFRA contract) or indirectly, whenever decisions are made as to where and how to locate research infrastructure. Implicitly, there is a recognition that Guelph cannot be at the

forefront in all areas, so these decisions effectively "manage" which research directions will thrive. Strategic planning implies that decisions about infrastructure be made according to a rational plan, not just on the basis of who shouts loudest.

One issue to keep at the forefront, especially in the sciences, is how to ensure that equipment infrastructure is used most efficiently across departmental boundaries. As a minor point, it should be recognized that equipment provided by the University as infrastructure or by federal agencies does not "belong" to specific individuals or departments; it is to be used for the maximum benefit of the maximum number.

Many of the newer thrusts in research support, such as federal Centres of Excellence, require substantial management in shaping, executing and reporting on projects. Some of these tasks may be beyond the capabilities or time commitments of the researchers involved. To the extent that inadequate management of a major research project reflects badly on the University as well as on the researchers involved (and may prejudice further grants or contracts from the sponsor), there is a need to provide specific management training and support to researchers heading up major projects.

**Recommendation:** That the Office of Research and the Research Board investigate appropriate methods of managing major projects and providing management training to researchers responsible for the management of such projects.

On the specific issue of the OMAFRA contract, a recent fundamental change is that we no longer tie parts of specific people to the ministry; instead, we agree to provide an overall total of faculty FTE. As projects change, some of these FTE could be people who in the past had no OMAFRA involvement. A negative side is that ministry guidelines could require us to hire new people with new expertise specifically for OMAFRA's projects.

An important issue is the extent to which we would wish to lock the University into a career-long tenure-track commitment to a researcher to meet a research need that might be only medium-term. A balance between tenure-stream and contract positions will be needed.

A related issue is that all managed research can create two classes of researcher — those whose work is automatically supported through a contract such as OMAFRA and those who have to go out and compete externally for all their funding.

Overall, the University must be careful not to neglect spending on research infrastructure; it would be easy to run down our capabilities to the point that Guelph could no longer maintain a claim to research-intensiveness.

The committee strongly believes that research infrastructure means more than the provision of major scientific equipment. Infrastructure is also needed in the humanities and social sciences, such as

in the purchase of computer hardware, and to allow faculty in all disciplines to gain teaching relief to prepare the extensive multidisciplinary research proposals that are increasingly being required by funding agencies, especially in applying to establish "networks" or "centres of excellence." These may be not only interdisciplinary within the University, but also interuniversity initiatives.

In this context, the committee stresses the importance of the library as part of scholarly infrastructure. Its allocation processes and total budget should be part of any discussion of research infrastructure.

**Recommendation:** That the Research Board's mandate include ongoing identification of the University's needs in research infrastructure. This task should include meaningful interaction with the Senate Library Committee.

Before leaving the issue of research infrastructure, we note that time for research is the most important resource needed by faculty across campus. In some disciplines, the recent withdrawal by funding agencies of "research stipends" to faculty has emphasized the importance of "time" as a crucial component of infrastructure. The proliferation of Senate committees, the ever-increasing complexity of our annual faculty review — even strategic planning itself — all take faculty away from scholarly enquiry and diminish our research capability.

**Recommendation:** That the review of Senate's composition and committee structure, as recommended by the Academic Restructuring Committee, proceed. In general, the University's bureaucratic structures must be streamlined so as not to squander time, our most precious resource, on unnecessary committee work.

A specific issue raised in the "environmental scans" was the increasing difficulty of securing research funding and the likelihood that a significant fraction of faculty, especially in the natural and social sciences, may find themselves without research support even though they wish to remain active in research.

The University must face the question of how it will best use the talents of such faculty. An inappropriate possibility is that these ex-researchers will find themselves, by default, on an "alternative career path" emphasizing teaching, but with little opportunity to capitalize on their talents and interests in research. The alternative career path in teaching should not be denigrated by such misuse.

Guelph might use its "human capital" more effectively if faculty whose external support has been interrupted were able to continue their participation in research through internal support while they sought other funds, or were able to participate in collaborative research without being stigmatized as second-class citizens.

**Recommendation:** That the Research Board develop policy to enable faculty to continue participating in research at times when their external support has been interrupted.

## Criteria for course and program continuation

Item (c) of the committee's mandate reads as follows:

*"To develop and apply criteria for the continuation of specializations and courses and to identify the impact of terminating those not satisfying the criteria."*

An issue for the University is the large number of programmatic specializations and course offerings at Guelph, relative both to the number of students and to other Ontario universities. Debate within SPC showed unanimity that course and

program loads must decline, given the expected decline in faculty numbers. In "Framing the Choices," a target of a 25-per-cent reduction in course offerings was advocated as a goal.

SPC's committee to examine the semester system has recommended moving to a single entry point, which could permit a (so far undetermined) number of "repeat" course offerings to be dropped.

Co-ordination of cognate activities through councils is an effective way to



reduce both program and course numbers, judging by the experience of the PBC.

It is not feasible to expect each unit to achieve the same predetermined target for reduction of course offerings. But based on data published each year by Institutional Analysis and Planning, which show numbers of course offerings and numbers of FTE students taught by each unit, it is reasonable for program committees to require departments whose FTE student/course ratios are lower than average to be especially diligent in eliminating course offerings.

At another level, many departments, especially in FACS and CSS, pointed out to the committee their high student/course and student/faculty ratios. Departments experiencing excessive student demand, given available resources, should consider imposing quotas on their programs. What should not be permitted is the imposition of quotas on specific courses at a level that denies access to a course to a student registered in a specialization for which the course is required.

The committee recognizes that enrolment management at the point of entry to Guelph is an inexact science. The University and the departments do, however, have flexibility in terms of admitting students to specializations, provided that the "rules" are known to students ahead of time (e.g., that specialization X has a quota of Y students per year). Students who fail to gain admittance to their first-choice specialization in third or fourth semester may have to accept admittance to a second or third choice, thereby spreading out the student load among departments. Regrettably, flexibility in meeting student wishes is likely to be a casualty in times of pressure on resources.

This activity should be co-ordinated through program committees, so that departments do not export their problems to someone else.

**Recommendations:** That program committees monitor reductions in course offerings, paying particular attention to departments having low FTE student/course ratios; and that departments, working through program committees, establish policies to manage enrolment.

At the graduate level, Guelph has successfully increased its master's and doctoral populations over the past decade to almost 20 per cent of the FTE undergraduate numbers. Further overall increases may be problematic if the University must shrink its faculty complement, due to lack of availability of graduate supervisors and, in the sciences, lack of research assistantships, especially if the external research funding climate worsens. But opportunities may be present for senior PhD-level students to participate further in the undergraduate teaching program, replacing some of the lost faculty talent and adding to the supply of teaching assistantships.

## Academic programs

The committee suggests that the following criteria be used to determine whether or not programs (specializations)

- should be introduced or continued:
- Identification of the program with the University's mission of funda-

mental scholarship in the humanities, social sciences or natural sciences, or with one of the University's professional and other programs of special responsibility.

- The availability of all necessary resources, including personnel, library resources, studio and laboratory space and computer pools, to offer the program at a level of quality the community (i.e., Senate) believes is acceptable academically.
- The extent to which the program duplicates or overlaps with other academic programs on campus and the societal need for the program, including the availability of comparable programs at other Ontario institutions.
- The actual or anticipated enrolment in the program.

### Recommendations:

- That the boards of Undergraduate and Graduate Studies be given the responsibility to fine-tune these criteria and to use the amended criteria in assessing proposed and ongoing programs.
- That new programs be approved by Senate only if they satisfy the amended criteria with positive recommendations on all the points listed.
- That course entitlements for undergraduate specializations might be determined by a combination of a minimum to keep the program viable with an enrichment factor that is dependent on student demand. BUGS and Senate should only approve new programs when there is also an assessment of where resources can be found to support them. At the graduate level, units should be allocated resources based on their student numbers, then permitted to organize their programs as they see best, subject to BGS acting in the role of an undergraduate program committee to protect the needs of students outside the disciplinary area and the needs of interdisciplinary programs.
- That in cases where apparent duplication between undergraduate specializations exists, BUGS instruct the relevant program committee(s) to consider how the specializations concerned should be differentiated or amalgamated. In cases where apparent overlap or duplication exists at the graduate level, BGS should act in a capacity corresponding to an undergraduate program committee.
- That for existing undergraduate specializations, BUGS instruct program committees to complete and then continue their quinquennial reviews, beginning with those specializations having the lowest enrolments, as identified in our first progress report. Explicit recommendations should be made for discontinuance or change in cases where either enrolment falls below an acceptable level or insufficient resources are available to offer the specialization at an acceptable quality. Separate internal review of graduate specializations is considered un-

necessary because these are all externally appraised.

The committee remains concerned about the future of low-enrolment specializations, which face a potentially cruel dilemma. Those supported by sufficient faculty resources can be claimed to be "uneconomic"; others supported by few faculty resources are economic in the sense of their graduates/faculty ratio, but raise questions that faculty resources may be inadequate to mount a major program.

Special efforts should be made in these cases to determine whether the program's viability can be improved by inter-institutional collaboration — such as by joint offering of courses to reduce the overall teaching load — and by complementary hiring between partner institutions, especially in highly specialized areas.

Such collaborations must not be regarded as opportunities for Guelph to "get a free ride" at the expense of a partner institution, nor as "punishment" for failure to have a numerically large program. Moreover, mutually profitable collaborations will almost certainly require co-ordination at a high level — that of deans or higher, not just at the departmental level.

## Undergraduate courses

The committee suggests that the following criteria be used to determine whether or not undergraduate courses should be introduced or continued:

- Whether the course is a required component of an approved specialization.
- The availability of sufficient resources to offer the course.
- The extent to which the course duplicates or overlaps with other courses on campus.
- The need for "repeat offerings" and the feasibility of offering the course either in alternate years or in the distance mode.
- The opportunities for collaboration with neighboring institutions in providing some or all of the course offerings.
- The infrastructure, such as library resources, studio and lab space and computer pools, needed to operate the course at a level of quality the community believes is acceptable academically.
- The actual or anticipated enrolment in the course.

### Recommendations:

- That BUGS be given the responsibility to fine-tune the criteria listed above and to use the amended criteria in assessing proposed and ongoing courses.
- That new courses not be approved by Senate without consideration of all the points listed.
- That to the extent feasible, specializations be encouraged to specify courses as "required" or "elective" rather than as "choose X from among Y," so that the impact of continuing or discontinuing a course offering can be more readily ascertained.
- That enrolment be a more significant criterion for introducing or continuing courses that are used only as electives.

- That BUGS give special consideration to low-enrolment courses that serve as honors projects, occasionally offered special topics and reading courses at the 400 level.

- That complete listings of all undergraduate courses be available on an ongoing basis to departments and program committees to help them develop their programs. (A current list was distributed with the committee's second progress report.)

- That all courses appearing in the calendar be offered no less frequently than on a two-year cycle. Semester offerings should be designated. Irregularly offered courses should be confined to a series of course numbers reserved for "special topics" under each specialization.

- That records of course enrolments be kept for use by program committees.

- That a course that has not been offered during the period covered by two immediately previous calendars be removed from the calendar unless either it is a special topics course or the department responsible plans to reinstate it on a regular basis beginning with the next calendar.

## Graduate courses

The committee restates its previous consensus that as far as possible, departments should organize their graduate courses in the manner best suited to the program, an exception occurring in the case of courses that have a "service" component to students outside the department. In the latter cases, BGS, acting in a role parallel to an undergraduate program committee, would need to protect the interests of students outside the home department.

**Recommendation:** That the graduate calendar follow the practice of the undergraduate calendar in identifying semester offerings for all courses and list only those courses that would be available during a two-year calendar cycle, with less frequent offerings advertised as special topics.

The rationale for this change would be to allow incoming master's students, who typically stay about two years, to plan their course work on arrival.

## Impact of terminating specializations and courses

Until the criteria have been established and agreed on, it is vain to consider in detail the impact of using them. But discussions in the committee reveal that eliminating specializations using the criteria of low enrolment and availability of a similar program elsewhere in Ontario will conflict in many cases with the University of Guelph's desire to remain "comprehensive." This is apparent from an examination of the list of low-enrolment specializations circulated with the committee's first progress report, many of which lie in "core" areas of the humanities and sciences.



## New office helps ease first-year transition

by Kerith Waddington  
University Communications

U of G is leading the way when it comes to helping entering students develop into self-reliant learners.

In response to research that shows students with good academic and social experiences during their first year are more likely to go on to successful university careers, U of G last fall became the first institution in Canada to establish an Office of First-Year Studies (OFYS).

Although it replaces the University College Project, OFYS retains the mandate to focus appropriate campus attention and resources on the entering student. Programs offered through the office serve to familiarize new students with campus and faculty resources, thus increasing their involvement with university life.

OFYS co-directors Prof. Nancy Bailey, English, and Shelly Birnie-Lefcovich believe the amalgamation under one roof of programs previously supervised

by various units across campus will help meet the needs of new students more effectively.

"Common goals can be identified and initiatives incorporated into all programs with a more collaborative structure," says Bailey. "This will overcome the isolation often occurring in first year not only among students, but also between areas of the University."

A further step in this direction is the recent establishment by the Board of Undergraduate Studies of a subcommittee for first-year studies with a broad mandate to address both academic and student development issues. This link is also apparent in the dual reporting relationship between OFYS and its co-directors and the two associate vice-presidents.

OFYS is currently operating out of the third floor of the University Centre, but will move to Day Hall at the end of April. It is staffed by Katherine Elliott and Mildred Eisenbach, co-ordinators of entering-year programs; secretary Sandra Faulds; and Sam Kosakowski, program counsellor for Akademia. The office is responsible for various programs:

- Transitions — a modular workbook that helps prospective students anticipate and prepare for the challenges of university;
- START — a two-day summer orientation for new students;
- new-student orientation at the beginning of each semester;
- Akademia — a first-year integrated arts and science program;
- the credit course "Introduction to Higher Learning"; and
- University College Connection (UCC) — a living/learning experience organized around senior peer helpers that "clusters" students in the same degree programs to form collaborative learning communities of about 20 students.

UCC won a 1994 award from the Canadian Association of Colleges and Universities for innovation and creativity in student services. Students comment that knowing their neighbor is both friend and classmate instills confidence and makes the university transition less intimidating.

Programs offered through OFYS reach most entering students and appear to have a positive impact on their success. Evidence collected since the mid-1980s indicates that these programs contribute to student retention and enhance the quality of their educational experience.

"Much remains to be done," says Bailey, "but communication at an institution the size of a university is always difficult, and these programs are links that help make a big residential university appear a kind of home." □



### Parks Canada signs on

Parks Canada and the School of Landscape Architecture recently signed a five-year agreement for research and education. Several research projects are already under way, including one on managing visitor activity in national parks.

On hand for the official signing are, from left, the school's director, Prof. Jim Taylor; Paul Choquette, Parks Canada's director general, architecture and engineering; and president Mordechai Rozanski.

Photo by Mary Dickleson, University Communications

## Creelman cooks up interest across North America

by Kerith Waddington  
University Communications

Creelman Hall — the first eatery of its kind — is now a model for other institutions throughout Canada and the United States.

Since reopening in September 1993 with a new concept of "Marche" or open market, Creelman has realized a 25-per-cent increase in sales — a statistic that's generating interest on campuses far and wide, says Garry Round,

director of Hospitality/Retail Services.

Representatives from Dalhousie, Santa Barbara, Tufts, British Columbia and Waterloo universities, among others, have toured the U of G facilities. Even the Canadian Armed Forces has expressed interest with a visit. Guelph is now recognized as a leader among institutions in food services, Round says.

"Creelman is the cafeteria of the '90s," he says. "The positive re-

ception by students and a corresponding increase in sales indicate that customer needs are being met."

These needs — identified largely by residence students in 1992 focus groups — include variety, freshness, convenience, interpersonal contact and seeing both product and preparation. Round says it's important that customers "have the perception that things are being made for them and their way."

Creelman's unique design — inspired by a 1992 visit by Round and assistant director Dave Boeckner to the Movenpick restaurant in Toronto — does all this.

Foods are prepared to order in front of customers at individual stations far enough apart to allow freedom of movement and eliminate long lines. Reducing the kitchen production area enabled tripling the serving area — a change reflecting a more service-oriented approach.

A "modular" design allows movement of equipment and frequent change. Attention to decor with cultured marble, granite, wooden beams, crates and baskets makes the atmosphere inviting.

The availability of popular fare in Creelman Hall — including Harvey's and Swiss Chalet — add up to an excitement other institutions are willing to invest in.

"A lot of people said this couldn't be done," says Round. "This eatery proves that listening to consumer needs is key to success." □

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## NOTICES

### Arboretum auxiliary

The Arboretum is holding an open house Jan. 19 at 2 p.m. to form an auxiliary to help co-ordinate volunteer activities, generate funds and carry out programs such as the Arboretum's 25th anniversary. To attend, call Ext. 2113.

### Senate nominations

Senate is seeking nominations for student members for its 1995/96 session. To stand for election, students must be registered in at least two of the three semesters in 1995/96. There are 23 undergraduate seats on Senate and eight for graduate students. Completed nomination forms must be received in the Senate Office on Level 4 of the University Centre by Jan. 24 at 4:30 p.m.

### Parking restrictions

Parking restrictions will be in effect on campus between Dec. 1 and March 31 to enable snow removal. There will be no parking between 1 and 6 a.m. in lots P.12 (Twin Rinks), P.15 (Arboretum Road), P.23/P.24 (Textiles Building), P.26 (Food Science), P.30 (Smith Lane) and P.31 (South Ring Road).

### The gift of life

The Red Cross will hold a blood donor clinic Jan. 23 from 10 a.m. to 3:15 p.m. in Peter Clark Hall. Donors must wait 56 days between

donations and bring two pieces of ID, including one with a photo.

### Australian quartet

The Guelph Chamber Music Society presents the Australian String Quartet in concert Jan. 29 at 3 p.m. at Chalmers Church. The program features works by Haydn, Ravel and Beethoven. Tickets are \$15 general, \$12 for students and seniors, and are available at the UC box office.

### Business forum

The Chamber of Commerce is sponsoring a business forum featuring local entrepreneurs Jan. 26 from 11:45 a.m. to 1:55 p.m. at the Holiday Inn. Topics include conditions, growth and changes in the economy. Cost is \$30. Register by Jan. 25 at 822-8081.

### Agriculture conference

Canada's longest-running organic agriculture conference will be held Jan. 27 and 28 in the University Centre. "Organic Agriculture: Growing the Network" will feature keynote speaker Harriet Behar, workshops and public forums. Cost is \$45 (\$35 per person for groups). For details, call Hugh Martin at 519-631-4700.

### Vitality for life

Human kinetics and human biology students are holding their 25th annual symposium Jan. 28 at Carden Place. This year's theme is

"Energize — Vitality for Life." Tickets for the day-long lectures and an evening dinner and dance can be purchased between 10 a.m. and 3 p.m. in the Powell Building. Tickets are \$10 for the lectures, \$25 for the lectures and dinner/dance.

### Cultural studies

A College of Arts colloquium on cultural studies, kicks off Jan. 18 with Len Findlay of the University of Saskatchewan discussing the development of cultural studies in Canada at 8 p.m. in Room 103 of the University Centre. On Jan. 23, Australian literary theorist Bill Ashcroft explores postcolonialism and cultural studies at 2 p.m. at the Inner Stage. A round-table discussion of "What is Cultural Studies?" is Jan. 19 at 2:30 p.m. in the University Club.

### Manage your stress

The Stress-Management and High-Performance Clinic will

## GRAD NEWS

The final D.V.Sc. examination of Krystyna Grodecki, Pathology, is Jan. 20 at 9 a.m. The seminar is in Room 2152 of the Pathology Building, followed by the defence in Room 1106. The thesis is "The Effect of an Angiotensin Converting Enzyme Inhibitor on the Progression of Samoyed Hereditary Glomerulonephritis." Her adviser is Prof. Rob Jacobs. □

## Corrections

In the Jan. 11 issue of *At Guelph*, the article "Overcoming Ethical Shyness" was incorrectly credited to Mei-fei Elnick. The article was actually written by Prof. Karen Wendling, Philosophy.

In the same issue, the article "Nominations Sought for Alumni Awards" indicated that nominations for the OVC Distinguished Alumni Award would be accepted until April 29. In fact, the deadline is Feb. 28. □

hold afternoon and evening classes starting Jan. 31 and noon-hour classes starting Feb. 21. Classes run Tuesdays and Thursdays. Cost is \$40 for U of G students, \$120 for non-students. Brochures are available at the Connection Desk on Level 2 of the University Centre or mail your fees and class time to the Stress-Management Clinic, Box 4155, University Centre.

### Homecoming planning

A planning meeting for Homecoming '95 will be held Jan. 24 at 5:15 p.m. in the Hall of Fame Lounge in the Athletics Centre. Anyone interested in helping out is invited to attend. For more information, call Ext. 6963.

### Food for health

The Guelph Food Technology Centre (GFTC) will hold a seminar on "Nutraceuticals — Designing Food For Health" Jan. 26 from 8:30 a.m. to 3:30 p.m. at the Arboretum. Cost is \$80.25 for non-GFTC members, \$53.50 for members and \$26.75 for students and job-hunters. To register, call Kathryn Cooper at Ext. 6937.

### Flow cytometry users

U of G's Flow Cytometry Users Group will meet Jan. 23 at 4:30 p.m. in Room 141 of the Animal Science and Nutrition Building. Prof. Peter Pauls, Crop Science, will speak on "New Fluorescent Sorting Facility on Campus."

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## Three history departments collaborate on conference

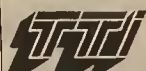
History departments at U of G, Wilfrid Laurier University and the University of Waterloo are sponsoring a tri-university conference Jan. 28 on campus.

Registration begins at 9:10 a.m. in the classroom block on the third floor of the MacKinnon Building; concurrent sessions begin at 9:30 a.m. Morning topics are "Historical Representations: Canada," "Piety and Protest in Reformation Europe," "Historical Representations: United States,"

"Ethnicity and Community" and "Canadian Stereotypes."

At 2 p.m., President Mordechai Rozanski will chair a plenary session with Carroll Smith-Rosenberg of the University of Pennsylvania discussing "Captured Subjects/Savage Others: Violently Engendering America."

The concluding afternoon sessions focus on "Polemics and Prejudice: The Power of Language" and "Imperialist Wars." □



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## FIRST GLANCE

### TSS open house

Teaching Support Services (TSS) will hold an open house Feb. 10 to discuss the use of Internet and World Wide Web as teaching and learning resources for faculty and students. TSS will also demonstrate its Pictoretel (video teleconferencing) facility, which faculty can book for classes, meetings, etc. The open house runs from noon to 3 p.m. in Room 125 of Day Hall.

### MP visit cancelled

The "Meet with Your MP" day scheduled for Jan. 27 at 11:45 a.m. in Room 103 of the University Centre has been cancelled. MP Brenda Chamberlain was to have heard opinions on proposed social-security reforms.

### Inside:

Open Learning Office gets Senate nod . . . 2

Guelph spins new worldwide web on information highway . . . 3

Selected trees to be cut at Cruickston . . . 3

New policy on students with disabilities urges collaboration . . . 5

China says thanks to its friends . . . 6

Integrating special children is an international issue . . . 7

Calendar . . . 11

We're in the news! . . . 12

### Thought for the week

*Some people stay longer in an hour than others can in a week.*

William Dean Howells

**DOWNTOWN  
GUELPH**



### Read on!

Graduate student Melanie DeSouza studied literacy programs in the Caribbean and found that fiscal restraints were making them a low priority. See story on page 6.

Photo by Trina Koster, Office of Research

## Five to receive honors at winter convocation

U of G will award four honorary degrees during winter convocation ceremonies Feb. 2 and 3 in War Memorial Hall.

Canadian composer John Beckwith will receive an honorary doctorate of music, comparative literature scholar Edward Said will receive an honorary doctorate of letters, environmental engineer James MacLaren will receive an honorary doctorate of laws, and world-renowned ichthyologist Eugenie Clark will receive an honorary doctorate of science.

In addition, retired engineering professor Trevor Dickinson will be named professor emeritus.

More than 750 U of G students will graduate during four ceremonies. This winter marks the convocation of Guelph's largest-ever class of graduate students — 100. Of those, 40 will be doctoral graduates, 138 will receive master's degrees and two will be awarded graduate diplomas. This class will include the first doctoral graduate of the applied mathematics and statistics program and the first two graduates of the master of science in aquaculture program.

### John Beckwith

Born in Victoria, Beckwith sang in church choirs and studied piano at an early age, then pursued piano and composition studies in Toronto and Paris. He began teaching at the University of Toronto in 1952, was a music critic and columnist for the *Toronto Star* during the 1950s and 1960s and did a weekly radio series on CBC. He taught at the University of Toronto until 1990 and served as dean of the faculty of music from 1970 to 1977.

Beckwith has written more than 100 musical compositions, many of which have been recorded and broadcast internationally. He collaborated with playwright James Reaney on three operas inspired by 19th- and

See HONORS on page 4

## Munford Centre is open to all in community

The Clarence Munford Centre in Johnston Hall is open to everyone in the University community, President Mordechai Rozanski told *At Guelph* in an interview this week.

He was responding to weekend stories in the local media that said white people have been banned from the centre. The student-run centre is a focal point for anti-racism and race relations resources and a drop-in for student networking. It is also a place where any student who might experience racial harassment or discrimination can find support among peers.

"To the best of our knowledge and according to the Munford Centre Collective, no one has been restricted from using the centre," said Rozanski, "and there is no policy — and there never will be — that bans white students or any students."

U of G is an inclusive community, respectful of all who come here, he said. The president

added that Guelph has many centres for students, and each is a place that offers equal access and equal treatment.

Nicté Fuller Medina, a spokesperson for the student collective that administers the centre, concurs. "In spite of impressions to the contrary, there is no policy banning white students from the centre," she said.

U of G is committed to complying with the letter and spirit of the Ontario Human Rights Code and to ensuring equal access by all its members to all University resources, Rozanski said.

He pointed to a range of measures Guelph has taken to ensure that it is as free as possible from any form of harassment and discrimination and that the human rights and freedom of expression of all members of the University community continue to be upheld:

- an umbrella human-rights office and policy

is being established to co-ordinate the separate offices currently in operation;

- a search will begin shortly for a director of human rights;
- regular seminars and educational workshops are being held on human-rights concerns; and
- a task force paper on anti-racism and race relations has been widely discussed throughout the University and is providing the basis for future action in this area.

The centre was named in honor of Prof. Clarence Munford, History, for providing support and encouragement to all students working towards making U of G an equitable and inclusive community.

Rozanski also confirmed that there is no investigation under way by the Ministry of Education and Training.



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by David Westgate  
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## APPOINTMENTS

Carol-An Nagy has changed employment from telecommunications system co-ordinator to manager of Telecommunications Services.

Angelo Sponga has been appointed supervisor of decorating in Physical Resources.

Dale Stevanus has changed employment in Central Purchasing from senior buyer to supervisor of buying operations.

Prof. Brian Woodrow, Political Studies, has been named acting chair of the department until June 30, 1995, while Prof. Bill Graf is on leave.

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## Open Learning Office, committee approved by Senate

An Office of Open Learning to encompass the work of Continuing Education, Distance Education and Open Learning got the nod from Senate Jan. 17.

The academic governing body also approved the creation of a Senate Committee on Open Learning to replace the Board of Undergraduate Studies (BUGS) program council for continuing education.

The new office will be the institutional focus for all open learning, including credit courses offered by distance and non-credit courses. The office will also oversee all non-credit certificate and diploma programs and collaborate with departments and colleges on degree distance initiatives and non-degree initiatives in all areas of open learning.

All required academic approvals for credit courses will continue to be the domain of BUGS and the Board of Graduate Studies (BGS).

The director of the Office of Open Learning will report directly to the associate vice-president (academic) and registrar.

The Senate Committee on Open Learning will be responsible for all aspects of open learning in consultation with the appropriate bodies.

It will consist of the chairs of BUGS and BGS, seven faculty members appointed by Senate, the chair of the U of G Alumni Association, continuing education committee, two open learners, the director of the Office of Open Learning, the associate vice-president (academic) and registrar, the provost and vice-president (academic), the president and the chancellor. The chair will be elected by the committee from among those members appointed by Senate.

The council may also include members at large as well as university personnel who may act as resource personnel. The committee will present an annual report to Senate.

## Enrolment down

Prof. Constance Rooke, associate vice-president (academic) and registrar, informed Senate that winter undergraduate enrolment is down 5.3 per cent overall. This is in keeping with the University's five-year plan to decrease enrolment.

Rooke drew Senate's attention to a Jan. 17 article in the *Globe and Mail* that reports university applications for fall are down by as much as six per cent across the system and that applications to community colleges are up.

She suggested that the decline in university applications is due to public speculation about tuition increases and a sense in the high schools that it's possible to use

community colleges as a stepping stone to university. The improving economy may also be a factor.

## Revised appeals process

Senate also approved their representatives on the selection committee for the dean of graduate studies. They are: Prof. Kerry Daly, Family Studies; Prof. Pat Gentry, Biomedical Sciences; Prof. Mary Konstantareas, Psychology; and graduate students Daniel Sellen of OAC and Karen Houle of the College of Arts. Academic vice-president Jack MacDonald will chair the selection committee.

Addressing motions from BUGS, Senate accepted a revision to the Senate Committee on Student Petitions regulation B.2 to require all petitions to be heard first by either the appropriate academic review committee (ARC) or the admissions and progress committee of BGS.

Senate also approved revised appeals procedures for admissions decisions. A University lawyer recently reviewed Guelph's appeal process and suggested revisions that allow for an appeal process for new students applying for readmission and clarify the process for new students (semester one, external transfers and internal transfer applicants.) The revised guidelines are effective immediately.

Senators referred back to BUGS a proposal to increase the options available to ARCs for a student who fails a course either because it was not dropped on time or because there were extenuating circumstances. BUGS proposed a "withdrawn with failure" option that would show as WDF on the student's transcript and a "withdrawn without penalty" option that would show as WNP. Students would have to appeal for either of these options.

According to BUGS, the new options would give ARCs more flexibility and would more accurately reflect decisions that have been made during a student's academic career. Senators argued, however, that students could take advantage of the WDF option. The academic governing body said it wished to review the guidelines used by other universities and the criteria that ARCs have yet to establish for accepting such requests.

Revisions to procedures for co-op work-term reports (WKTR) were also approved by Senate. The procedures have been somewhat soft in the past, said Prof. Norman Gibbins, Microbiology. The new guidelines will bring some consistency in how deadlines are set for submitting WKTRs and where they should be submitted. They also define an ap-

peal process if the report is not submitted by the deadline and establish responsibility for grading the reports and receiving the grades. The new procedures will become effective in spring of 1996.

In other BUGS business, Senate agreed that the plant biology program should continue for another five years, but noted that there are no full-time faculty to teach mycology and weed taxonomy. Steps to rectify this are being discussed by the Plant Biology Council.

Senators also learned that seven exchanges were approved by the study-abroad and exchange committee in the fall:

- Malaga Exchange, Spain;
- Chapingo letter of agreement, Mexico;
- Keele Exchange Agreement, England;
- Norway Exchange Agreement, Agricultural University of Norway;
- Lincoln Exchange Agreement, Lincoln University, New Zealand;
- Institut d'Etudes Politiques de Lyon, France; and
- La Rioja, Spain.

The Hohenheim agreement with Germany will continue for another five years.

## OCGS gives nod

From BGS, senators learned that the Ontario Council on Graduate Studies has accepted the recommendation of its appraisals committee that Guelph's M.Sc./PhD program in chemistry (joint with the University of Waterloo) and PhD program in resource and environmental economics (shared between the departments of Agricultural Economics and Business and Economics) be approved to continue. The programs were classified as "good quality."

## Four new awards

Senate also approved four new awards brought forward by the Senate Committee on Awards:

- Dr. Richard J. Ketchell (OVC '51) Memorial Bursary for students who have completed the first year of the DVM program. Donors are Ketchell's family.
- Ken Berg Memorial Award to a student with a B average who demonstrates financial need and a significant improvement in marks during the previous three semesters.
- Izak Walton Fly Fishing Club Scholarship in Aquatic Sciences.
- Helen Grace Tucker Design Award to a graduate in each of the accredited engineering programs. Donor is the late Helen Grace Tucker, OAC '65.

## COU, Axworthy meet

U of G's Council of Ontario

Universities (COU) colleague, Prof. Carlton Gyles, Veterinary Microbiology and Immunology, reported on a recent COU meeting with federal Human Resources and Development Minister Lloyd Axworthy.

The council stressed to the minister that funding for postsecondary education should not be considered as part of welfare and social-security reform, but rather as an investment in the future, said Gyles. COU also expressed its concern about the transition period if there is a significant change in federal funding and asked Axworthy to consider the potential impact of tuition increases and student debt load on accessibility.

Gyles said Axworthy noted that the transition period will not necessarily be over one year. The proposal has been modelled over two- and five-year transition periods. The minister reminded COU that the setting of tuition fees is a provincial responsibility, not federal.

In Axworthy's opinion, the funding proposal is an attempt to deal with the funding of education down the road, said Gyles, and the minister indicated that if changes are not made soon, there will be no cash transfers 10 years from now.

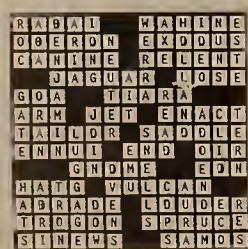
Axworthy suggested that if there is no support for his proposals, the matter will revert back to the minister of finance to resolve.

## Goals reached

The president informed Senate that the University's 1994 fundraising goals have been exceeded. (Watch for more details in an upcoming issue of *At Guelph*.) He also introduced Nancy Sullivan, the new vice-president, administration, and welcomed chancellor Lincoln Alexander to the meeting.

## Correction

In the Jan. 18 issue of *At Guelph*, an incorrect location was given for the monthly meetings of Senate. Senate meets on the third Tuesday of every month at 6:30 p.m. in Room 113 of the MacNaughton Building.



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*At Guelph* top stories and coming events can be accessed on GRIFP.

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**Welcome aboard!**

President Mordechai Rozanski welcomes to campus Nancy Sullivan, U of G's new vice-president, administration. In her first month, she plans to meet with directors and as many staff as possible, and will be available for breakfast or lunch meet-

ings for staff working shifts or out on call. To date, she has met with representatives of Physical Resources, Security Services, Hospitality/Retail Services, Human Resources and Financial and Administrative Services.

Photo by Kerith Waddington, University Communications

## Guelph spins new worldwide web on information highway

by Kerith Waddington  
University Communications

U of G adopted a popular method of communicating with the world via computer last week with the placement of home pages in the World Wide Web (WWW) information system.

The home pages were based on input from a representative group of Guelph faculty, staff and students, under the direction of a WWW team from Computing and Communications Services (CCS) led by Len Zaitman.

The future direction of the U of G home pages is now with a WWW steering committee, chaired by Mary Cocivera, director of University Communications. Information on University faculties, services, courses and features unique to this campus will go into the University's Web

pages. Cocivera believes these pages could become a powerful tool for recruitment and public relations.

"There is the potential for much broader communication of Guelph's programs than currently occurs," she says. "The Web will get the word out, and people worldwide will find out about our campus."

The steering committee is looking at policies and issues surrounding content and expects to assign upkeep of the information pages to various groups representative of the campus, including the colleges, CCS, Teaching Support Services, students and the Office of Research.

The Web can relay textual, graphic and audio information of such clarity that everything from photographs and newspaper columns to weather reports and busi-

ness brochures can be transmitted clearly between locations.

Further development of the U of G home pages will enable any individual with access to the Web to visually tour campus, read articles in the campus newspaper, access brochures on student groups and events, and determine not only what programs are available but also who will be teaching them.

A feature that links documents, called hypertext, is making the Web more popular than the widely used Gopher system. Whereas traffic in the Gopher system has risen 197 per cent over the last 12 months, traffic in the Web has risen 1,713 per cent during the same time period.

Zaitman notes that, with more than 600 universities worldwide now using the Web, it is an important communication tool in the age of the information highway.

"Universities take a leading role in the gathering and sharing of knowledge," he says. "Utilizing technology geared towards the same end will keep more individuals up to date with pertinent information."

To access the U of G WWW home pages and explore what's available, type "lynx" from the command line once you're connected to your central computer account. For more information, call Zaitman at Ext. 6566, e-mail him at leonardz@uoguelph.ca or call the CCS Help Desk at Ext. 8888.

## Selected trees to be cut at Cruickston property

Several wooded areas on U of G's Cruickston property in North Dumfries will be selectively thinned this winter as part of a management program. About 50 acres of mixed hardwood forest on the 980-acre property will be involved.

Peter Williams, a registered professional forester and a research associate in the Department of Environmental Biology's agroforestry research program, will manage the project, which will be carried out by a local contractor. The logging will take place when the ground is frozen to minimize damage to the soil and forest floor, he says.

About 25 per cent of the mature trees will be removed in the identified stands, says Williams, who has expertise in forest ecology and hardwood stand management.

"A number of trees that would be cut in a normal forestry operation are being left at the Cruickston property because of their importance for natural heritage, as specimen trees or for wildlife habitat, and to maintain the old-growth characteristics of some stands."

Trees were marked for cutting by the Ontario Ministry of Natural Resources (OMNR). The plans were reviewed by the Region of Waterloo's planning and culture department to ensure that they conform to regional guidelines for environmentally sensitive areas.

Bill Shunk, OMNR forester for Waterloo and Brant counties, de-

scribes the cutting at Cruickston as moderate. His staff identified the trees for cutting to retain all species in all age and diameter classes in the woodlots.

"Overall, the cutting will promote species diversity," he says. "Currently, sugar maples and beech grow more vigorously and are preventing young oaks from growing. Without this kind of intervention, oaks and other intolerant species will be lost."

No wood has been sold from the property since U of G received it as a gift from the Keefer family in 1968. Several significant stands were cut about 30 years ago, and residents of the property have cut firewood over the years.

Particular targets for the current cutting are hazard trees that threaten to damage property, block roads or injure visitors, as well as trees that are diseased or likely to die or break. Several trees have fallen in the last few years, one narrowly missing a long-time resident of the property.

The logs — which will vary greatly in quality — will be sold to realize the highest return, says Williams.

A small portion of the proceeds will be used to reimburse the University's agroforestry program, says John Armstrong, director of the Real Estate Division. The balance will go into the Heritage Fund to support the maintenance of the Cruickston property, he says.

## Aquatic sciences facility nets another \$45,000

The Harold Crabtree Foundation and the Catherine and Maxwell Meighen Foundation have donated \$25,000 and \$20,000 respectively to U of G's aquatic sciences facility.

Since the Development Office officially launched a fund-raising campaign for the facility in June, \$95,000 in gifts has been received from various foundations. The E.W. Bickle Foundation and Imasco Limited each pledged \$25,000.

The University hopes to raise a

total of \$2.3 million from corporations, foundations and individuals with an interest in aquatics and the environment. Some \$4.1 million has already been raised from the public and private sectors — the Natural Sciences and Engineering Research Council, Rolf C. Hagen Inc. and ichthyologist Herbert Axelrod.

Construction on the \$6-million aquatic sciences facility — which will house Aqualab and the Institute of Ichthyology — will begin early this spring.

## Campus, city police seek help in assault case

Campus and city police are seeking the public's help in locating a person involved in an assault on campus Jan. 20.

Former U of G student Steven Batty, 28, of Dollard Des Ormeaux, Quebec, was taken to St. Joseph Hospital in Hamilton last Friday with serious injuries.

According to Keith McIntyre, director of Safety and Security Services, Batty is believed to have been involved in a fight in the Bullring at about 12:30 a.m. He was ejected from the Bullring and, while outside in the parking lot, continued the fight with another person. While fighting with this person, he was hit from behind by a second person.

McIntyre said police are looking for a white male about 22 years of age, six feet tall, between 160 and 170 pounds, with light brown curly hair, wearing blue jeans with a red fleece jacket.

Brian Sullivan, associate vice-president, student affairs, said Friday that the incident is unusual. "Guelph has an excellent safety record and a sound security system," he said, "but we can never plan for the unexpected. I am grateful that our personnel responded to the emergency."

Batty preregistered for fall semester, but cancelled in October. Anyone with information is asked to call Ext. 2050 or the city police department.

## OAC dean up for review

Senate has appointed a committee to review the performance of OAC dean Rob McLaughlin, who will complete his first term July 31 and has indicated his willingness to serve for a second term. The committee invites comments pertinent to the review from members of the University community by Feb. 24.

Chaired by academic vice-president Jack MacDonald, the committee consists of Prof.

Chris Hall, Environmental Biology; Prof. Barry Shelp, Horticultural Science; Prof. John Walton, Animal and Poultry Science; Prof. Moira Ferguson, Zoology; OVC dean Alan Meek; Prof. Doug Ormrod, dean of graduate studies; graduate student Dennis Van Engelsdorp, Environmental Biology; and undergraduate student Gordon Wood, P.O. Box 31-0217.



## Honors to scholar, composer, engineers and ichthyologist

Continued from page 1

20th-century life and events in southern Ontario.

As a scholar, Beckwith has written dozens of articles and has edited or co-edited eight



John Beckwith

books. The Canadian Music Council awarded him its annual medal in 1972 and elected him composer of the year in 1984. He has received two honorary degrees and became a member of the Order of Canada in 1987.

Beckwith will address graduates of the College of Arts and FACS Feb. 2 at the 10 a.m. ceremony.

### Edward Said

Born in Jerusalem, Said was educated principally in the United States and is a professor at Columbia University. He has been a visiting professor at many universities and has acted as a mediator in Middle East peace negotiations.

Said is the author of numerous books, including *The World, The Text and the Critic*, *Orientalism*, *Covering Islam*, *The Question of Palestine* and *Blaming the Victims*. In many of his works, he gives voice to the secular, liberal and human aspects of Arab culture often silenced by Middle Eastern regimes and ignored in North America. He has long argued for the recognition of Palestinians as a people deserving self-determination.

Said has received many awards in recognition of his scholarly work, including a

Guggenheim Fellowship, the Lionel Trilling Award and the Rene Wellek Award of the American Comparative Literature Association.

He will address students graduating from the College of Social Science Feb. 2 at the 2:30 p.m. ceremony.

### James MacLaren

A graduate of the University of Toronto and the Massachusetts Institute of Technology, MacLaren has been a consulting engineer since 1947. For more than 30 years, he and his colleagues designed and built the water, sewage, flood-control and waste-management projects that most of us now take for granted.

In 1982, MacLaren became an independent consultant and began to use his extensive knowledge to challenge the way water is managed in this country. He has consistently advocated prevention over reaction, integrated management of water quality and quantity, full cost pricing of water and sewage services, and protection of Canada's \$50-billion investment in aging municipal infrastructures.

He holds the University of Toronto's Engineering Alumni Medal, the Engineering Institute of Canada's Julian C. Smith Memorial Medal and the American Water Works Association's George Warren Fuller Award.

MacLaren will address graduates of CPES, OAC and OVC Feb. 3 at the 10 a.m. ceremony.



James MacLaren



Eugenie Clark

### Eugenie Clark

A scientist, explorer and best-selling author, Clark has made ichthyological research widely and easily available to the general public. She is well known as "the shark lady" for her pioneering research, articles and television series on sharks and marine biology.

A researcher in the area of shark biology and behavior, Clark has been on expeditions around the world. She has carried the flags of the National Geographic Society, the Explorers Club and the Society of Women Geographers, which awarded her their gold medal. She has four species of fish named after her.

Born in New York City, she was educated at New York University and Hunter College, where she later taught. She held academic appointments at City University of New York and the University of Maryland, where she is now a professor emerita and senior research scientist.

Clark was founding director of the Cape Haze Marine Laboratory, where she began her shark research. Her best-selling book, *The Lady With the Spear*, was a Book-of-the-Month Club selection, was translated into eight languages and has gone through 24 editions. Her underwater satellite TV series, *Reefwatch from the Red Sea*, and her IMAX film on sharks received wide acclaim. Her international collaborations include research with Japan's most famous ichthyologist, the Emperor Akihito.

Clark holds an honorary doctorate of science from the University of Massachusetts and has received more than 20 awards, medals, citations and commendations. She is a fellow of the American Association for the Advancement of Science, is listed in *Who's Who in America*, *Who's Who in the World*, *Who's Who in the East*, *American Men and Women of Science* and the *Encyclo-*

*lopedia Britannica*. Most recently, she is featured in the book *Women in Ichthyology: Anthology in Honor of ET, Ro and Genie*.

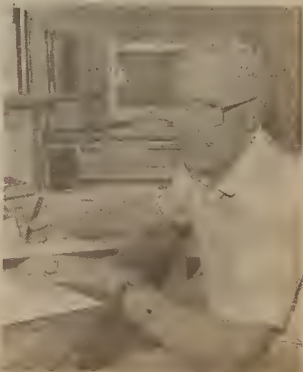
Clark will address students graduating from the College of Biological Science Feb. 3 at the 2:30 p.m. ceremony.

She will also give a public lecture Feb. 2 on "Sea Monsters and Deep-Sea Sharks." It begins at 5:10 p.m. in Room 1714 of OVC's Learning Centre.

### Trevor Dickinson

Over his 27-year career at U of G, Dickinson has been widely recognized for his excellence in teaching. At fall convocation, he was awarded the John Bell Award for teaching and course design, and has twice been named Engineering Professor of the Year. Nationally, he was a 1990 recipient of the prestigious 3M Teaching Fellowship.

A graduate of OAC and the University of Toronto, Dickinson completed his PhD in hydraulics and hydrology at Colorado State University in 1967.



Trevor Dickinson

At Guelph, he carried out extensive research in hydrologic modelling that included the development and verification of conceptual source-area watershed models. He was at the forefront in developing and applying extreme-value theory with monthly and seasonal information, and in developing and verifying error models for stream-flow and sediment-load variables. He also made a major contribution to identifying and quantifying stream-bank erosion processes.

Dickinson will be honored Feb. 3 during the 10 a.m. ceremony.

Editor's note: A photo of Edward Said was unavailable at press time.

## Canadian farmers plan to expand in '95, survey finds

by Owen Roberts and  
Steve O'Neill  
Office of Research

Canadian farmers are feeling good about the future.

A survey of 1,000 farmers by Prof. Tom Funk, Agricultural Economics and Business, shows that most producers are planning to significantly expand their farms.

"They're optimistic about the future and realistic about what they have to do to compete, so they're expanding," says Funk. "They know they need to either be more specialized or more diversified to stay competitive in the changing market, and that means getting bigger."

Funk says the upbeat attitude has a lot to do with the GATT and free trade agreements. After years of uncertainty, farmers now know that traditional pillars in some agricultural sectors (such as marketing boards and production quotas in dairy and poultry) will fall away. As a result, they can plan accordingly.

Funk says farmers are reacting in "a business-like way." For dairy and poultry producers, that means expanding, spreading costs over more units of production. Grain producers, who have been subject to price fluctuations in traditional commodities such as wheat, are diversifying in search of income stability and capturing some niche or expanding market opportunities. They're planning to delve into the likes of sunflowers, vegetables, lentils and — in

some cases — exotic livestock such as reindeer. They're also considering more independent initiatives such as roadside sales, direct contract with supermarkets and some on-farm processing.

"Farmers are making the adjustment," says Funk. "Right now, they don't know exactly what crops they'll be growing or how many animals they'll be raising, but they're determined to stay with it and be part of agriculture."

Funk's survey was distributed across the country to corn, soy, wheat, barley, canola, potato, dairy, hog, beef and poultry producers.

"I believe this study turned out better than any similar survey ever carried out in terms of obtaining responses and in the quality of those responses," he says. "Farmers valued the opportunity to say what was on their minds."

Some of those findings are:

- **Economic:** With GATT and free trade, Canadian farmers are less worried about the survival of their business, finance and getting better value for their money than their U.S. counterparts, whom Funk surveyed last year and found more disgruntled and unhappy with farming as an occupation than Canadians.

- **Regional:** Canadian farmers' response to expansion varied greatly from region to region. In the grain-intensive west, farmers are the most likely to be looking for diversification opportunities. Ontario farmers are the most likely to rent more land. Quebec farmers are on the

lookout for specialization opportunities, and the main goal of Atlantic Canada farmers is to minimize cost per unit of input.

- **Environmental:** Meeting new regulations regarding environmental practices was considered a significant challenge. As in the States, Canadian farmers plan to use more environmental consultants in the future.

- **Assets:** With the farm economy depressed for so long, farmers were not replacing pricey items that were somewhat discretionary, such as machinery. Now, they have to because the old machines are wearing out. And they're concerned about where they'll get the money to replace them.

Funk's survey was conducted in co-operation with the Canadian farm publications *Country Guide*, *Farm & Country*, *Grainews* and *Le Bulletin*. Seed funding for the survey was provided by Agriculture and Agri-Food Canada.

The complete survey results, including evaluations of farmers' attitudes toward such issues as direct buying, new technologies, management problems and many other topics, were presented at "Serving the Commercial Producer," a conference held on campus in the fall that attracted 175 participants from across Canada. The conference marked the 20th anniversary of the agribusiness marketing management program at Guelph.



# New policy on students with disabilities urges collaboration

by Kerith Waddington  
University Communications

Understanding and meeting the needs of students with disabilities to everyone's satisfaction is possible — if students, faculty and administration continue to work together.

That's the message the Centre for Students with Disabilities (CSD) is sending out to the University community with the publication of a Senate-approved statement on "Policies and Guidelines for Undergraduate Students with Disabilities." (The statement is published on page 8 and 9.)

Clarifying and making operational a 1985 Senate-approved "statement of intent" regarding students with disabilities, the guidelines answer questions and concerns arising in light of the five-fold increase in the number of students using the centre since

its inception in 1991.

Centre co-ordinator Bruno Mancini — along with advisers Carol Herriot and Trudy Smit-Quosai and secretary Kay Barrett — believes the policy will improve communication among students, faculty and administrators and will help each identify their own roles.

"Students are responsible for identifying their disability and making clear their own needs," says Mancini. "Faculty are responsible for providing support and appropriate accommodations. The centre, by negotiating between students and faculty members and providing information and support as needed, will reduce the strain on faculty resources while helping to enhance the learning environment for the student."

President Mordechai Rozanski

says the new policy and the CSD are major parts of U of G's efforts on behalf of students with disabilities and, in the process, are a response to the proposed Bill 168, a private member's bill that is seeking enhanced access to post-secondary education for Ontarians with disabilities.

Rozanski, who is chair of the Council of Ontario Universities committee on employment and educational equity, notes that the number of provincial students identifying themselves to university special-needs offices and receiving accommodation has jumped from 3,999 in 1991/92 to 6,137 in 1993/94 — an increase of 45.6 per cent. At Guelph, the number of students using the CSD has risen from less than 80 in 1991 to 435 in 1994.

The CSD recognizes six areas of disability — hearing, learning, vi-

sion, medical, mobility and emotional/psychological. Students wishing to use the centre's services must identify themselves by the 40th class day, provide appropriate documentation verifying the existence of a disability (psychologists are available to make an assessment if a learning disability is suspected) and determine via an adviser how their disability could impede their progress at university.

Based on this review, the centre recommends certain accommodations, which are identified in a letter sent to each of the student's professors, who are in turn encouraged to contact the centre if they have questions.

## More welcoming

In addition, the students are provided with counselling, programs and resources to help them deal with their disability in an academic setting. Exam proctors, tutors, readers, scribes and peer helpers — hired and trained by the centre — are available. Mancini believes this level of student involvement makes the University a more welcoming, accepting place.

"Campus is very supportive, and accommodations rarely become a problem," he says.

Wherever possible, universities have tried to meet obligations to their students with special needs, says Rozanski. He points to changes in the admission selection process; fully accessible rooms in student residences and residence-attendance service programs; accessible computer workstations with voice synthesizers, scanners, braille printers, closed-circuit television and larger-print software; alternative media services; special readers' rooms; educational materials such as handbooks to provide faculty with practical suggestions for teaching students with disabilities; and services provided by campus career centres.

## Cost implications

Much remains to be done to fully respond to Bill 168, says the president. The cost implications of the bill are themselves a barrier and, if the bill proceeds, are estimated at between \$5 million and \$15 million per institution. A private member's bill cannot be passed if it carries significant cost implications.

"Universities are concerned about being supportive, but also about such issues as the extent of

support needed given the number of students involved and the costs," he says. "These must be weighed against the other pressing needs of universities."

Faculty members, although supportive of the initiatives, have some concerns, says Prof. Sandy Middleton, Zoology, chair of the Senate Committee on Student Development.

As the number of students with disabilities increases, the ability of faculty to cope with specific individual demands may be stretched, Middleton says. Professors will have to determine whether accommodation of special needs can be accomplished without sacrifice of course and program goals.

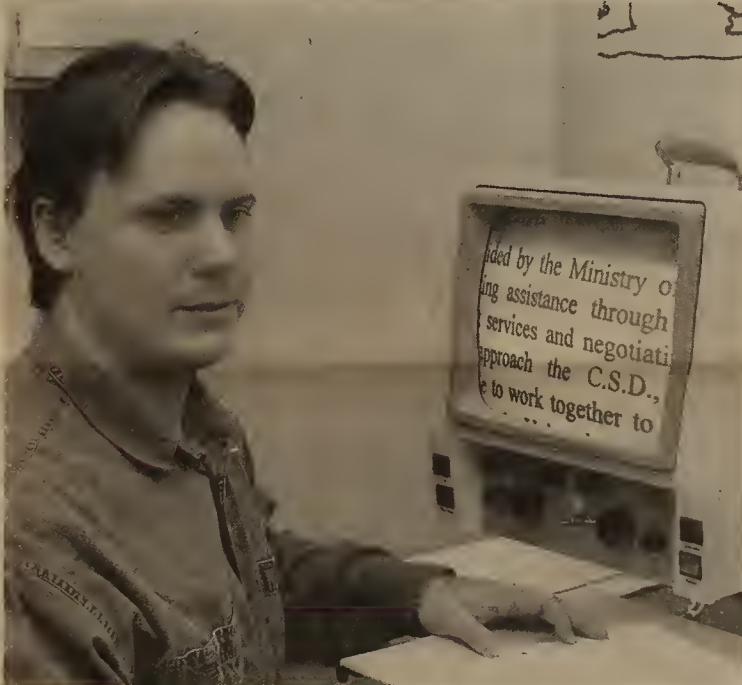
There is also uncertainty about what constitutes appropriate help for those with less obvious learning disabilities and about the ramifications of the funding needs for a relatively small cohort of students, he says. In addition, faculty are anxious about retaining their ability to adequately evaluate their own students. Many of these concerns result from misinformation, which the new policy should help remedy, he says.

## Retain control

"Faculty members should be reassured that they retain control of evaluation, but they can better understand the students' needs by working alongside the centre to determine which accommodations are realistic and appropriate for specific disabilities."

In response to issues broached by Senate, the CSD has developed a news bulletin (beginning this semester) to answer common questions asked by faculty. Middleton hopes that this, in combination with the guidelines contained in the new policy, will help improve communication and increase educational awareness of the challenges posed by disabilities among students, faculty and administration.

Mancini believes the centre will be the catalyst for such collaboration. "We pride ourselves on working closely with faculty, students and staff, and offering personal, direct service and support. This makes the centre a particularly apt place for concerns to be heard and addressed."



Psychology major Robert Gaunt examines the new policy on students with disabilities on a closed-circuit TV at the Centre for Students with Disabilities. With

peripheral vision that makes reading regular print impossible, he often uses the equipment and services of the centre.

Photo by Kerith Waddington, University Communications

## Students with disabilities say it's important to help themselves

"Everyone is challenged in their own way."

These words take on special significance coming from Robert Gaunt, a second-year psychology major challenged with peripheral vision — a disability that makes reading regular print impossible.

Using a personal voice synthesizer that translates lap-top computer notes into visual and auditory forms, along with a large-print TV at the Centre for Students with Disabilities (CSD), Gaunt successfully meets his own challenges while pursuing a university education.

He acknowledges the importance of support from faculty and CSD staff for students with disabilities, but he also believes in helping himself.

"I've found that the more one is willing to do on one's own, the more support is often offered," he says. "For those intellectually capable but with specific challenges, this support is positive in that it opens doors for more people."

Gaunt overcomes the difficulties posed by his peripheral vision by introducing himself to his professors and discussing potential problems before beginning a course, working out alternative arrangements

and using the resources available at the CSD.

He notes, however, that there are specific challenges for students with less obvious disabilities.

Hilary Henry — a third-year English/psychology major with a learning disability that affects her reading skill and speed — is such a student. Requiring extra time to write exams and reread her notes, she uses taped texts to cope with time constraints.

Henry believes there's a lot more room for understanding about students with learning disabilities.

"A learning disability does not make a student mentally disabled," she says. "Often, they simply take a more circuitous route to reach the same goals."

Self-help is important to her as well. She actively educates faculty about the needs of her particular disability through personal consultations, providing documentation and encouraging communication among her professors.

Henry and Gaunt agree that, to date, campus support has been terrific.

"It is important, though, that nothing is taken for granted," says Gaunt. "If it is, doors will not be opened."

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## Caribbean study looks at best ways to make literacy programs work

by Leigh Funston  
Office of Research

What makes an adult literacy program work? A U of G graduate student studying in the Caribbean found that accessibility and adequate resources are key factors.

Melanie DeSouza of the University School of Rural Planning and Development conducted a three-month study of literacy programs on the island of St. Vincent, West Indies, located just west of Barbados in the Eastern Caribbean. Estimates of adult illiteracy there range as high as 30 to 50 per cent; with that level of incidence, it's important to ensure that programs work at optimum effectiveness.

But right now, no one's sure of their effectiveness.

"There's a lack of understanding in this area," says DeSouza. "It's difficult to measure the success of many literacy programs because there is little documentation at the grassroots level."

DeSouza compared the planning and implementation processes of three community-based adult literacy programs on St. Vincent. Several once-viable grassroots programs on the island have recently discontinued literacy work because of lack of technical and financial resources and reduced interest.

She analysed various aspects of the programs, reviewing local and international literature, interviewing government officials, surveying participants and holding focus groups.

DeSouza says the focus-group discussions and participant interviews were the most informative. They gave her insight into the attitudes of the learners and enabled her to make suggestions about how the literacy programs might be improved.

"The program participants' openness and honesty painted a mixed picture of the current literacy efforts," she says. "That left me both encouraged and skeptical at times."

She says two recurring concerns are poor accessibility and lack of resources.

"The need to accommodate the learners and satisfy as many of their needs as possible is imperative, but it's not always an easy task for low-budget programs. One of the reasons why many grassroots programs fail is simply that they're inconvenient for the

learners to attend."

To eliminate as many of those inconveniences as possible, literacy programs should offer child care as well as central venues for learners who are discouraged by hard-to-reach locations, says DeSouza.

With the world becoming so technology-driven, program organizers need to instill in learners the sense that literacy will benefit them in the short and long run, she says. Now that the island is facing increased competition from countries that are using advanced methods to produce better-quality bananas, farmers and local businesses are facing difficult times. It's important to link the literacy programs with skills training so that income-earning opportunities outside of a collapsing agriculture industry will be attainable, she says.

"Formal education systems have influenced students to associate literacy with white-collar jobs, which are not readily available in the rural areas. The perception exists among the older generations who practise traditional agriculture that literacy is not essential to their livelihood. This perception should be changed."

DeSouza notes that government fiscal constraints in developing countries such as St. Vincent and the Grenadines have made literacy programs a low funding priority. Non-government community-based programs on the island have historically relied on funding from more affluent countries like Canada and the United States. With those nations suffering from their own economic problems, aid has been reduced.

She says that if literacy and other adult-education programs don't start to regain support in the form of tutor-training and other funding to produce appropriate learning materials, struggling countries like St. Vincent could lose what amounts to an important contribution to their development.

"Favorable impacts — such as improved self-esteem, self-confidence and the ability and opportunity to interact with others — demonstrated to me that the programs were empowering people who used them," she says. "Such programs, if planned properly, can be effective mechanisms for mobilizing people to participate, at the community level, in their country's development."



Prof. Ed Gamble, left, holds his Friendship Award from China, which recognizes contributions such as the improved grain-growing technologies that he,

Prof. Rick Upfold, right, and Prof. Neal Stoskopf introduced to Heilongjiang Province.

Photo by Trina Koster, Office of Research

## China says thanks to crop scientists

by Steve O'Neill  
Office of Research

Even a modest yield gain in a country's most important cash crop is worth millions. So when Guelph researchers helped increase the crop yield in China's wheat belt by as much as 40 per cent, the country's government was understandably pleased. China has recognized a U of G team member's achievement with a prestigious award.

Prof. Ed Gamble, Crop Science, is one of fewer than 100 researchers from around the world bestowed with a Friendship Award by China's State Bureau of Foreign Experts in recognition of contributions and dedication.

Gamble, along with team leader Prof. Neal Stoskopf and Prof. Rick Upfold, applied Canadian growing techniques in China's Heilongjiang Province, the country's grain-producing centre, from 1990 to 1992. Thanks to their efforts, yields in the belt climbed to more than 4.5 tonnes per hectare.

The significance of the award is underlined by the fact that an estimated 50,000 foreign researchers are currently applying their expertise in various fields to improving China's economic and social development.

"Within the last five years, China has really opened its doors to foreign experts," says Gamble. "The government has become very receptive to new ideas."

Contrary to popular belief, it is wheat, not rice, that is China's most important cash crop. Out of habit, failure to account for geographical variables such as climate and a lack of applied research, China's wheat yields have remained stagnant over the years.

Gamble, Stoskopf and Upfold set out to determine the methods best suited to the unique climate of China's wheat belt — dry weather during spring and fall, rainy summers and very cold win-

ters with little snow. They arrived at a strategy for higher yields through information exchange with Chinese researchers — who maintain a close relationship with farmers — to develop a growing system uniquely suited to Heilongjiang. Based on the team's own ideas and the Chinese input, they made suggestions that were implemented on two model farms.

The suggestions included using nitrogen-enriched fertilizers, applying the fertilizer before seeding and introducing cover crops like clover. All are common practices in Canada.

The model farms used the new methods for three consecutive growing seasons. The researchers' target was ambitious — to increase the average yield to 4.5 tonnes per hectare. Previously, the highest yield in the area had been 3.3 tonnes.

The results were better than the team hoped. In each season, the average yield surpassed that of the target — even in 1991, when there was almost no rain from September to May and only spotty seed germination. On average, the model farms increased their yields by 28 to 40 per cent after adopting the team's techniques.

Aside from the increased yield, the research team succeeded in growing high-quality wheat varieties for bread making as well as winter wheat, which previously had not been grown in Heilongjiang.

Chinese farmers were immediately impressed; 45 per cent of all farms in the Heilongjiang district have already adopted the Canadian techniques. Independent farmers have been overwhelmingly supportive, and the new methodology is steadily gaining popularity on "state" farms — those managed directly by the government.

Gamble expects that remaining farmers will also convert as they

see the continued success of growers adopting the innovations.

News of the team's success continues to spread in China. They are now trying to improve wheat-growing methods in the extremely dry Gansu Province and have been invited to apply their expertise in Xinjiang Province, which contains part of the rocky Gobi Desert.

According to Gamble, bucking tradition isn't a stumbling block for Chinese wheat growers.

"I think farmers are basically the same the world over," he says. "If you can demonstrate that a change in technique is a good idea and can make them more money, they'll take it up."

The Guelph team's research is sponsored by China's Association for International Exchange of Personnel and the respective provinces' departments of agriculture.

## Guelph-Buea wraps up

The Women-in-Development Project will hold a closing symposium Jan. 27 from 9:30 a.m. to 4:30 p.m. in Room 441 of the University Centre.

Sponsored by the Department of Rural Extension Studies, the day is designed to give Cameroon and Canadian participants a chance to review the achievements made and lessons learned during the five years of the Guelph-Buea Human Resources Development Project. Cameroon representatives will be Pamela Martin and Mary Mbuwe of the Association for Creative Teaching.

Members of the University community and others interested in issues and activities related to women in development are welcome to attend. A reception will follow in the University Club. For more details, call Ext. 6123.

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## Low-waste technologies promoted in India

by Leigh Funston  
Office of Research

One of the oldest industrialized cities in India is the research site for a Guelph-led international waste-management initiative.

Prof. Nonita Yap, University School of Rural Planning and Development (USRP&D), is leading a 14-member cross-disciplinary, cross-cultural team on a two-year project in Kanpur, India, aimed at promoting low-waste technologies for industries. Kanpur suffers from the waste-management problems associated with early — and rapid — industrialization.

"Some of the industries in Kanpur were established at the turn of the century," says Yap. "The technology being used is very dated and not at all effective in dealing with waste generation. We wanted to put our ideas to the test under the most challenging conditions."

The situation in Kanpur reflects India's nationwide waste-management problem. According to project documents, almost half of India's approximately 225 million urban dwellers are exposed to waste-related health risks. Reports estimate that 70 per cent of the country's water supply is polluted. Just three per cent of the population has accessible sewage-treatment systems, and only about one-quarter of industries have waste-treatment facilities.

Yap is heading a research team that includes six graduate students from five departments at three Canadian and Indian universities and institutes. Their goal is to develop a public policy and planning framework that promotes low-waste technologies, including good housekeeping practices, source segregation, recycling and enhanced product durability. The team anticipates that techniques developed during the Kanpur re-

search will be transferable to other industrialized cities in India and around the world.

"We plan to examine the policy contexts that influence decisions on the technological choices of waste producers, as well as the influence of the community organizations on industrial waste-management practices," Yap says.

To that end, the researchers will work with industries in Kanpur and study the factors that influence individual firms to prefer one technology over another in waste-management practices. Based on those findings, the team will develop case studies in the decision-

making process of each firm.

Where applicable, cost-effectiveness calculations will be made to demonstrate the cost savings of low-waste technologies over "end of the pipe" management methods designed after waste is generated.

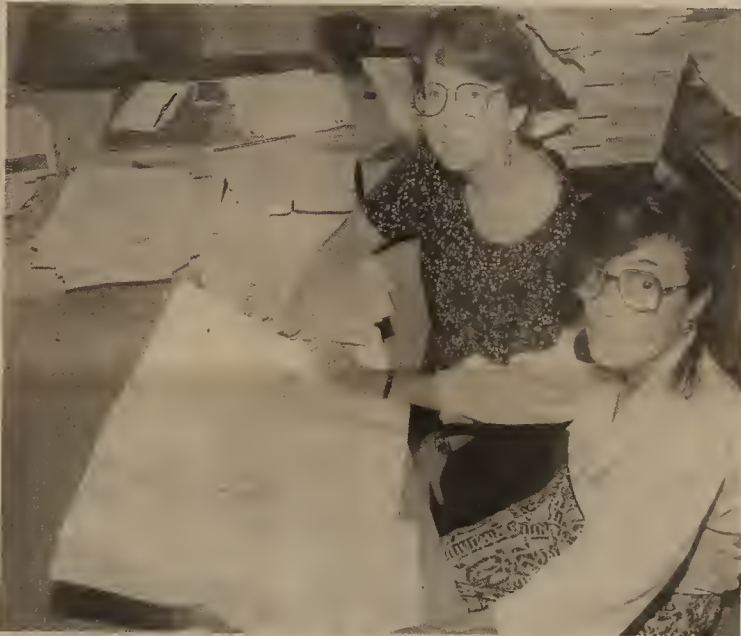
The researchers will also explore the potential role of community groups in industrial waste management.

Researchers from USRP&D, with participation from York University's urban studies program, will address the community and waste-management planning aspects of the project. Kanpur University's Harcourt Butler Technological Institute will examine the

technological dimension as well as the background information needed to understand the city's unique sociopolitical and cultural situation.

U of G's Department of Political Studies will provide the policy, legal and administrative expertise, and additional help will come from individual researchers at the Indian Institute of Technology at Kanpur and Kanpur University's Medical College.

This is one of 11 projects sponsored by the Shastri Indo-Canadian Institute. Funding was provided by the Canadian International Development Agency.



Graduate research assistant Grace Howland, left, and Prof. Nonita Yap are working to promote low-waste technologies for industries in Kanpur, India.  
Photo by Trina Koster, Office of Research

## Thailand professors visit campus

Two professors from Sukhothai Thammathirat Open University in Thailand visited Guelph recently to observe and discuss the University's experience in distance education, especially the Independent Study program in agriculture and horticulture.

While here, crop-production specialist Harissadee Pathardilok and rural extension professor Benjamas Yooprasert visited a number of departments on campus.

Collaboration between Guelph and STOU has gone on since 1985 and has included Prof. Thom Herrmann, Psychology; Elizabeth Black, Les Richards and George Taylor of Teaching Support Services; and Prof. Ab Moore, Rural Extension Studies.

## Deadline nears for field-study grants

Feb. 10 is the deadline to apply for the next round of international field-study grants. These awards provide up to \$1,000 for U of G students to complement their studies with a global and cross-cultural experience.

Students must have completed five full semesters or be pursuing a master's or doctoral degree.

Application forms are available from International Education Services on Level 4 of the University Centre.

## International progress slow in integrating handicapped children

by Margaret Boyd  
University Communications

Enlightened attitudes in North America regarding the integration of physically and mentally handicapped children in society are not shared internationally, says Prof. Andor Tari, Family Studies.

He recently spent a research leave traveling and working in Romania, Cyprus, Hungary and Israel to observe the integration of such hard-to-place children and to seek parental views on the effectiveness of the educational system. He found differences in each country, but says that overall, little progress has been made to advance the education of these children.

Tari's experiences have led him to believe that the western world has a responsibility to help other countries overcome narrow attitudes about handicapped children. He would like to see an International Year for the Mentally Challenged designated by the United Nations as part of a concerted effort to reach out to those who need help.

In Romania, he found handicapped children suffering from gross neglect. The tragedies portrayed in the media several years ago, following the fall of the Ceausescu regime, still exist.

In the institutions he visited, the children

were ill-clad and improperly cared for, the physical care was atrocious and there was no intellectual stimulation or concern about emotional development, he says.

Clothing, blankets, medicine and toys sent by western countries are being sold in the marketplace, rather than being used in hospitals and institutions, he says.

In Nicosia, Cyprus, where he worked as a volunteer psychologist at a school for the mentally handicapped, Tari tested and diagnosed many of the children. He found that about 58 per cent of them should not have been institutionalized or placed into that institution. Their original placement was probably the result of physical handicaps or behavioral problems, because of complaints by regular school teachers about the unremitting unmy behavior of some of the neurologically impaired children.

While there, Tari helped modify the school program and discussed the diagnosis with the school authorities and the rather frequent occurrence of overmedication with the doctors of the children.

"It was a tremendously gratifying undertaking," he says. "I was able to combine research and clinical work in a novel setting where there was an evident need for both endeavors."

In Hungary, the developmentally challenged are called "imbeciles" and are looked after in institutions where the care is custodial. "When they are called imbeciles, it implies a definite lack of value of those individuals as potentially contributing members of society," he says.

In Israel, where Tari expected to find better treatment of handicapped children, he found a closed system, with institutions removed from the community, like that of the "school for the autistics" far off in the outskirts of Jerusalem. There was no sign of integration. Some of the teachers, who were educated in Canada, compared the Israeli school system for the handicapped to the Canadian system of 40 years ago.

Parents in these countries have a sincere desire to have their children developed to their full capabilities, Tari found. Parents expressed dissatisfaction with the care their children received, but were unwilling "to make waves" because of their concern about the reaction of school and government authorities.

They were willing to consider integration, but in their opinion, it would require the co-operation of politicians and educational leaders. Unfortunately, says Tari, although the teachers in many of the schools have the skills to teach handicapped children — in

fact, many have special-education certificates from other countries — they do not use their skills because of the indifference at higher levels in the educational system.

"What is needed is intensive education of politicians, leaders in the educational systems and educators at the local level, in addition to the parents."

Tari intends to return to Cyprus this summer and the other countries in following years. He hopes to help with the education of people who are working with developmentally challenged children. He wants to take resource materials, texts and psychological tests to teachers and staff of the various institutions.

He notes that graduates in child studies or psychology who are looking for challenging experiences should consider working in such countries for a period. The experiences would be enriching and rewarding for both them and the people they would help, he says.

"During the years at this university, I was always involved with the life of the developmentally challenged at the local or regional level. In the last years of my academic career, I would like to contribute to the welfare of the developmentally challenged on the international scene."



# Policies and guidelines for undergraduate

## Introduction

### Rationale

At U of G, several initiatives dating from as early as 1981 have focused on the needs of students with disabilities. These have led to continuing discussion of the issues, formulation of a statement of intent in 1985 and approval by Senate of a set of recommendations in 1988.

In 1990, the Centre for Students with Disabilities (CSD) was established with funds provided by the Ministry of Education and Training. Since 1990, the number of students requesting help through the centre has risen dramatically, and a system of providing support services and negotiating accommodations has been developed. (In this document, "accommodation" refers only to those specially negotiated conditions required to meet students' learning needs.)

Using a learner-centred approach, the centre, students with disabilities, faculty and administration have been able to work together to provide a high level of service to students with disabilities.

Traditionally, U of G has relied on collegial discussion to resolve internal issues, including those related to students' learning needs. Most members of the University community are committed to this model, and in general, it has served Guelph's needs effectively. Accordingly, U of G can be justifiably proud of its reputation for high-quality student/faculty relationships.

Recently, however, there has been increasing demand, primarily from students and faculty, to create a policy statement with practical guidelines to meet the needs of students with disabilities. Instead of operating on an ad hoc basis, there is now a desire to identify the specific roles and responsibilities of students, faculty and administration in providing services for such students.

Specifically, there is a need to clarify and make operational Senate's 1988 recommendations. The need is further precipitated by the enactment of human-rights legislation in Ontario and the guaran-

tee it provides for access to education.

The Human Rights Code of 1981 "prohibits discrimination on the grounds of handicap. Services, goods and facilities cannot be denied to someone because they have a disability." In addition, "the needs of persons with disabilities must be accommodated in a manner which most respects their dignity, if to do so does not create undue hardship."

U of G supports this statement, but is committed to going beyond the minimal legal requirements of the human-rights legislation and offering help appropriate to higher education. Acceptance of a set of policies that can be interpreted easily and implemented effectively and that will, if necessary, withstand a legal challenge ensures this commitment.

### Purpose

The purpose of this policy statement is twofold:

- to clarify and make operational Senate's 1988 recommendations regarding students with disabilities; and
- to define the role and responsibilities of students, faculty and administration in providing such services.

The most significant aspect of the policy statement is the recognition that providing services for students with disabilities is a shared responsibility among students, faculty and administration. This relationship is based on respect of individual rights and the dignity of the individual, and the University community's shared commitment to an open, supportive learning environment.

Because of the existing high-quality relationship between students and faculty and our commitment to that relationship, U of G has made significant gains in developing an effective response to providing services for students with disabilities. This policy statement will enhance our ability to respond by firmly establishing the principles and guidelines that will support our students with disabilities.

As is the case for everyone, stu-

dents with disabilities are guaranteed the right to an education. The goals of these students must be realistic in light of their learning needs and consistent with the expectations of a university education. U of G is committed to removing barriers that would interfere with achieving this education.

Universities have the right to grant degrees to those who have met their requirements. But rights do not come without responsibilities. U of G has the responsibility to respond effectively to the request for accommodations as well as to provide the physical requirements for accessibility to all its facilities and services.

For their part, students with disabilities who are accepted at Guelph must assume the responsibility for identifying their unique needs. In this, they will be supported by the CSD. In addition, they must ensure that sufficient notice is given to enable the University to make the necessary accommodations for their disabilities.

Although students with disabilities have the right to an education in the program of their choice at Guelph, the University must maintain the integrity of its programs. In this regard, U of G holds the right to admit students to its programs and courses.

There may be times when the demands of a particular program may not make it possible for the student to complete the program. Before making such a decision, however, the University, in consultation with the student, must explore the situation thoroughly and ensure that resources are identified to remove barriers that impede academic success.

Program committees will have to unambiguously spell out the specific requirements as they relate to the academic goals and performance levels required for graduation. Likewise, specific course requirements, approved by the program committees, will also have to spell out clearly the precise requirements for successful completion. Unless all sectors of campus can do this, their positions will be vulnerable, particularly if

their decisions are challenged within the University itself or in court.

The University administration must be aware that there are significant resource implications in providing services for students with disabilities. First are the resource implications of the current human-rights legislation. Fiscal constraint, real though it may be, cannot be used to limit access to specific programs or courses by students with disabilities. U of G must address — and be prepared to meet where necessary — the economic demands that accommodating students with disabilities may require.

Second, there will be increasing work demands on the University community, especially faculty, as it strives to understand the nature of the needs of students with disabilities and the accommodation required.

If all avenues are closed and Guelph is unable to accommodate a specific request, the University will need to support the student in understanding the constraints on his/her academic goals and the subsequent options that remain. Students will be helped in this regard by academic counsellors and CSD advisers.

Although information about individual students will have to be shared to ensure that appropriate steps are taken to help a student find the most acceptable alternatives, sensitivity and discretion must be exercised to guarantee confidentiality and to conform to the University's policy on privacy of student records. At all times, concern for maintaining the dignity of the individuals involved should be paramount.

The Senate Committee for Student Development (SCSD) recognizes the practical difficulties of designing and implementing an effective policy that will enable the accommodation of students with disabilities. Without such a policy, U of G may still be able to reach agreement through the collegial, collaborative process that has been its long-standing tradition. But at this point, given the number of students with disabilities, the resource implications, the

clarification requested by students and faculty and the possibility of a legal challenge, a University policy is very much a necessity.

U of G must therefore recognize the need for adopting a policy on the admittance and accommodation of students with disabilities and move swiftly to implement it.

### History

In its deliberations, the subcommittee consulted existing University documents and retraced the campus history of deliberations.

■ **1981** — President's Advisory Committee on Disabled Students is established.

■ **1982** — Advisory committee releases report that provides 14 recommendations and defines disability under the subheadings of physical, communicative and learning.

■ **1983/84** — President encourages the Senate Committee on Educational Development (SCED) to recommend specific action on the 14 points identified by the advisory committee. A report is forwarded to the president.

■ **1984** — President instructs the University's various sectors to act in response to SCED's recommendations. This results in creation of a SCED subcommittee to monitor implementation.

■ **1985** — Senate approves a "statement of intent" with regard to students with disabilities.

■ **1986** — The SCED subcommittee releases its report entitled "Hindrances to Academic Success."

■ **1988** — Senate approves the recommendations contained in the document "The University of Guelph's Response to Disabled Students' Learning Needs" with a new series of recommendations. This includes a request to establish a Centre for Students with Disabilities with its own co-ordinator.

■ **1991** — The Centre for Students with Disabilities is established with Bruno Mancini as co-ordinator.

■ **1993** — A Senate working group presents its report, "Accommodations of Students with Disabilities: Working Group Recommendations." This report recommends a program to increase awareness of the issue on campus and establishment of college disabilities consultative committees to deal with problem areas.

■ **1994** — At the request of SCSD, the co-ordinator of the CSD presents a review of services for students with disabilities. This report again stresses the need for a University policy with appropriate guidelines for implementation. SCSD establishes a subcommittee to prepare a draft policy statement for discussion by the full committee and, ultimately, Senate.

The input of a number of other committees is also acknowledged, but not listed.

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# students with disabilities

## Policies and guidelines

### Scope and intent

This document is restricted to matters relating to undergraduate programs and educational issues. It does not address lifestyle or quality-of-life issues.

Although this policy statement focuses on undergraduate programs, an area in which the University has gained significant experience over the past few years, the issues raised also have implications for students with disabilities who wish to pursue graduate studies. This will require the attention of graduate program committees in conjunction with the CSD to ensure equitable access to graduate programs.

### Admissions

In its admission and liaison activities, U of G actively encourages applications from students with disabilities and will provide admission information to applicants in alternative forms (braille, audiotape, etc.) on request.

In accordance with policies on University admission, admission committees will select academically qualified candidates for undergraduate programs by examining each applicant's academic record and the impact of any extenuating circumstance.

The application process allows candidates to volunteer special information and identify circumstances that may have affected past academic performance. The student profile form must be used by the student to provide this information. This information is confidential to the admission committees.

### Self-identification

In the admission process, U of G strongly encourages students to declare their disability. In cases where applicants have identified a disability and/or special needs, the admission committees will consult with appropriate counsellors from the CSD so that a full understanding of the applicant's circumstances may be gained and appropriate support services can be provided. Self-identification is confidential, and access to information must be consented to by the student.

### Enrolment, registration and course advising

On admission to Guelph, students with disabilities will be provided with details and counselling on enrolment, registration and course selection. All programs have resource people (such as program counsellors and academic advisers) who can help students with special needs to select courses. The CSD will provide support and information for academic and program advisers to aid in this process when students wish help.

As with all students, students

with disabilities will be counselled and supported in choosing majors and postgraduate studies that are consistent with their abilities, interests and career goals.

U of G is committed to removing barriers that result in discrimination on the basis of disability to the maximum extent possible, while ensuring that academic integrity is maintained. The University will require students with disabilities to provide appropriate documentation and assessment of their disability to assist academic counsellors in developing an appropriate educational plan.

### Orientation

Orientation programs for students with disabilities will be provided by the CSD. Students are strongly urged to participate in both the special and regular orientation programs.

### Provision of services and accommodations related to instruction, learning and evaluation

Some students with disabilities require special support services and accommodations. The University provides such services to support these students as they strive for a successful academic experience.

The provision of advocacy, support services and accommodations is a shared responsibility among all members of the University community. The responsibility for co-ordinating this service belongs to the CSD. The centre reviews all documentation to ensure its validity and makes recommendations as to appropriate services and accommodations. It runs programs to help students with disabilities and, in conjunction with other University offices and faculty members, ensures that the needs of students with disabilities are addressed. In addition, the centre provides resources to faculty to support them in accommodating and working with students with disabilities.

Students are responsible for providing relevant psychological or medical documentation to the CSD to qualify for consideration for accommodations and access to the services that are available.

Students must identify themselves as early as possible and no later than the 40th class day in the semester they are requesting assistance in. Failure to do so will mean that accommodation *cannot* be guaranteed for that semester.

Once students with disabilities are admitted to a program, faculty members and instructors are expected to comply with the students' requests for those course accommodations and services that are substantiated by the CSD. Supported by relevant documentation, all services and accommodations are provided on an individual basis, are disability-

specific and are consistent with the academic objectives of the course. It is the responsibility of faculty members, supported by the academic department and the program committees, to identify their course objectives and, in conjunction with the CSD, to determine if the requested accommodations jeopardize these goals.

### Instruction- and learning-related accommodations

Examples of typical accommodations and support services have included:

- deadline extensions for assignments (such as when medical documentation substantiates an extension);
- use of assisting devices or auxiliary aids (FM systems worn by course instructors, computerized notetakers in the classroom);
- use of oral and visual language interpreters and/or notetakers in the classroom;
- permission for audio recording of lectures;
- permission for videotaping lectures;
- special seating, wheelchair-accessible tables;
- adjustments to lighting or ventilation, etc.;
- book and reading lists available prior to term; and
- directed reading.

### Examinations and evaluations

Students with disabilities are encouraged to follow the normal procedures for writing exams whenever possible. Where special needs apply, students, with the support of the CSD, must discuss their test and exam requirements with their instructors at least two weeks before the scheduled tests and exams are to be held. Failure to do so may mean that the faculty member and/or the service unit will be unable to accommodate the request in a timely manner.

To receive examination accommodations, a special examination request form must be filled out. The professor, the student and the CSD must sign the form, acknowledging the types of accommodations agreed to. This form is available to students registered at the CSD at the main reception desk.

Where identified, the needs of students with disabilities must be given due consideration with regard to academic accommodations and evaluations. Typical examples include:

- extended time to complete an exam;
- use of special equipment (computer, etc.);
- use of private rooms;
- exams in alternative forms (audiotape, braille, etc.);
- use of readers and scribes in an exam setting; and
- alternative methods of testing and evaluation.

All examinations will be administered under the University policy related to exams, and security will be maintained when handling

tests. All invigilators employed by the CSD will be extensively trained and familiar with the University policy.

If agreement on accommodations cannot be reached, the steps outlined below will be followed.

### Disagreements regarding accommodation

Under most circumstances, the policies and guidelines outlined above should prove adequate for the requested accommodations by students with disabilities. Should difficulties arise over the request for accommodations, however, a series of steps is proposed. The decisions made and recommendations proposed should be documented in writing. The sequence is as follows:

Steps 1 to 5 must be completed by the 40th class day. If the issue is unresolved at this time, the student may withdraw without penalty or proceed to steps 6 and 7.

1. Verification of the disability through the CSD at time of admission.
2. Consultation by student with CSD for specific requests for accommodation and support services communicated to the faculty members responsible for the course.
3. Consultation between student and faculty member as to agreement on accommodation requests.
4. If agreement is not reached, further consultation between student and faculty member, with CSD as the intermediary.
5. If still unresolved, continued consultation among student, faculty member, CSD counsellor, department chair and dean and additional expertise as deemed necessary.
6. With no resolution, the case is passed on to the Academic Review Committee.
7. Final appeal is to the Senate Committee on Student Petitions.

The University of Guelph acknowledges the rights of the student to challenge its position under the conditions of the Human Rights Code.

### Library

It is the policy of the U of G Library to provide equal access to information for all who request it. To achieve the aim of independent accessibility for people with dis-

abilities, physical and administrative adaptations will be made.

Although a librarian and a committee have been designated to co-ordinate service to people with disabilities, all members of the library staff are expected to assume a positive attitude and offer assistance without hesitation.

It is recommended that a user with a disability contact the library resource person in advance, so the user's needs can be discussed and communicated to the appropriate library staff. It is also recommended that the person with a disability bring a helper with him or her. The CSD employs peer helpers to provide assistance.

In the McLaughlin Library, students with disabilities can have access to private study rooms. The Access Centre in the library provides adaptive technology such as a Kurzweil Personal Reader, computers with voice synthesis, large print and closed-circuit TV. Peer helpers provided by the CSD assist in the Access Centre and provide help retrieving books, photocopying and using the on-line catalogue (available with voice and large print).

### Physical accessibility

The University of Guelph is committed to continually monitoring and upgrading physical accessibility to all its academic facilities and residences. This function is co-ordinated by the Accessibility Advisory Committee.

### Convocation

The University will provide special assistance at all convocation ceremonies as required. Typical accommodations include accessible seating, mobility assistance, FM systems and oral and visual language interpreters. Requests for oral and visual language interpreters must be presented in writing to the convocation clerk on Level 3 of the University Centre at least two months before the ceremony.

## PEOPLE

Prof. Linda Marshall, English, gave two talks this fall at conferences celebrating the life and work of English poet Christina Rossetti. She spoke on "Christina Rossetti and the Poetics of Analogy" at the Rossetti Centenary Conference at Yale University and on "Christina Rossetti and 'The Image of the Heavenly'" at a Rossetti conference at Anglia Polytechnic University in Cambridge, England. Prof. Judy Myers Avis, Family

Studies, gave a workshop on "Integrating Feminist and Narrative Ideas into Training and Supervision" at the annual conference of the American Association of Marriage and Family Therapists (AAMFT) in Chicago. At the same conference, Prof. Marshall Fine was a panel member for a workshop called "Ethics Case Study." Fine is a member of the AAMFT ethics committee.



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## NOTICES

### Convocation parking

To accommodate convocation guests Feb. 2 and 3, lots P.23/24 (Textiles Building) and P.44 (Johnston Hall) will be reserved, except for premium parking spaces. Alternative parking for regular users may be found in P.19, P.17 and P.7.

### Theatre in the Trees

The Arboretum's dinner theatre presents *Don't Misunderstand Me*, a comedy by Patrick Cargill, beginning Feb. 4. Directed by John Snowdon, the production runs Saturdays until April 22. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are \$39 and are available at the University Centre box office, Ext. 4368. For table reservations and more information, call Ext. 4110.

### Local artist featured

Guelph Museums presents "Scott Cameron: A Show of Paintings," Jan. 30 to Feb. 26. The museum is open from 1 to 5 p.m. Monday to Friday. For more information, call 836-1221.

### Journal workshop

"Journalling: A Tool for Your Spiritual Journey," a free workshop to explore journalling as a way of deepening spirituality, is Feb. 5 at 3 p.m. in Room 533 of the University Centre. To register, call Prof. Fred Evers at Ext. 2196 or Rev. Lucy Reid at Ext. 2390. "The Sacred Feminine," a weekly video and discussion group on women's spiritual journeys, begins Feb. 1 at 12:10 p.m. in UC 334.

### Music society

The Guelph Chamber Music Society presents the Australian String Quartet in concert Jan. 29 at 3 p.m. at Chalmers Church. Tickets are \$15 and \$12. The society is also staging a Valentine Cabaret Feb. 4 at 7:30 p.m. at the College Inn. Cost is \$25 per person. Tickets for both events are available at the UC box office.

### Life after death

U of G's Interfaith Council is sponsoring a discussion session called "Life After Death" Feb. 6 from 7 to 9 p.m. in Room 103 of

the University Centre. Members of various faiths will make presentations. For more information, call Janice Canning at 763-3959.

### Homecoming help

The Homecoming Committee is looking for a student to chair the committee until Homecoming '95 in September. For more information, call Ext. 6963.

### Music at noon

The Department of Music kicks off its "Thursdays at Noon" concert series Feb. 2 with violist Henry Janzen and pianist Alison MacNeill. Concerts begin at 12:10 p.m. in Room 107 of the MacKinnon Building.

### Famine fund raiser

A 30-hour famine by students to raise funds for World Vision projects kicks off Feb. 3. Juice, concerts and a showing of *Forrest Gump* are free for participants,

courtesy of the Central Student Association (CSA). For more information, call the CSA office at Ext. 6743 or HAFSA student Justin Tazzi at Ext. 8107.

### RRSP update

Human Resources is sponsoring information sessions to help people make decisions about their RRSP contributions Feb. 2 from noon to p.m. and Feb. 8 from 1 to 2 p.m. in Room 442 of the University Centre.

### Gourmet theatre

The Eramosa Community Players present "The Secret Garden of Eden," a night of gourmet food and a theatrical review, Feb. 11 at 6:30 p.m. Tickets are \$25 and are available at the University Centre box office.

### On stage

Guelph Little Theatre presents *Lysistrata* Feb. 2, 3, 4, 10 and 11

at GCVI. Tickets are \$10.50. For more information, call the box office at 821-0270.

### Y winter programs

The YMCA-YWCA of Guelph will offer the eight-week courses "Assertiveness Training" on Mondays and "Discover Yourself" on Tuesdays, beginning in February. Cost of each program is \$60. Register by Jan. 31 at 824-5150.

### Arboretum auxiliary

The Arboretum and its auxiliary steering committee are holding orientation sessions for auxiliary members. They will be held Jan. 31 from 2 to 4:30 p.m., Feb. 3 from 2 to 4:30 p.m. and Feb. 7 from 9:30 a.m. to noon at the Arboretum Centre. Anyone interested in joining the auxiliary to volunteer at the Arboretum is asked to attend one of these sessions and should register by calling Ann Smith at 822-9994.

## CLASSIFIEDS

### JOBS

As of *At Guelph* deadline Jan. 20, the following opportunities were available:

**Employment and Educational Equity Administrator**, Employment and Educational Equity Office, temporary from February to May/95, three days a week. Salary range: \$29,114 minimum, \$34,208 normal hiring limit (projected). Removal date: Jan. 25.

**Intensive Care Unit/Ward Technician**, Veterinary Teaching Hospital, 0-24 hours a week. Salary: \$15.02/hour. Removal date: Jan. 25.

It is the University's policy to give prior consideration to on-campus applicants. To determine the availability of University employment opportunities, visit Client Services on Level 5 of the University Centre or call 836-4900.

### FOR SALE

Nordica 898 junior ski boots, size 24 1/2; Dynastarskis, 150 cm, suitable for 10- to 12-year-old, Ann, Ext. 4758 or 836-8468.

Cross-country skis, no wax, 185 cm, poles, men's boots size 7 1/2; communications card for computer voice-mail and fax, 836-1231.

English riding boots, Wembley International, woman's size 7; black velvet riding cap with chin strap, size 6 and 7/8; forward-cut 18-inch English saddle, girth leathers, Irons, Ext. 2921.

Aquarium, 33 gallons with pumps, stones, stand, Helen, Ext. 6223 or 836-2279.

### FOR SALE

Kenmore washing machine, good working condition, Ursula, Ext. 2212 or 821-7233.

Two pairs of Rossignol skis, 170 cm and 160 cm, boots, bindings and poles included, good condition, 763-2246.

Kodak carousel 760 projector, auto focus; screen and carousel slide tray, 763-2824.

Skier hide-a-bed chesterfield and chair, perfect condition; single bedroom suite with mattress, boxspring, frame, armoire, nightstand, dresser with mirror, or bed separately; Kenmore stove, Ext. 2070 or 823-1521.

Two tickets for Michael Burgess, Feb. 11, excellent seats, Lou Ann, Ext. 3956.

### FOR RENT

One-bedroom apartment to sublet, sauna, pool, parking, 10-minute drive to OVC, on bus route, available until Sept. 1, \$530 a month inclusive, Lori, Ext. 4138.

Three-bedroom lakefront cottage, five minutes from Parry Sound, easy access to snowmobile trails, \$450 a week or \$1,500 a month, 1-905-822-9015.

Furnished one-bedroom basement apartment, private entrance, \$540 a month includes heat, hydro and cable, laundry, parking, non-smoker, perfect for single person, 763-6556 or Paul at 836-2050.

### AVAILABLE

Fourth-year student to babysit, experience with special-needs children, flexible schedule, have own transportation, references, Laee, 821-8904.

### WANTED

One-bedroom apartment in basement or apartment building for two people, private kitchen and bath, no pets, laundry, no lease, 823-9340.

Two-bedroom apartment, south end, easy access to 401, immediate, reasonable, 1-747-0644.

Two-bedroom apartment in country home or farmhouse, 787-2056 and leave message.

Two- or three-bedroom house, preferably south end, required for July 1, Ext. 6690 or 1-747-0644 evenings.

Dining room table and four chairs to go to Vancouver, can help with gas and other expenses, Maria, Ext. 2451 or 767-2477 evenings.

Ride to downtown Kitchener, mornings at 7:45 a.m., 822-5735 after 6 p.m.

Fully detached house in Guelph for professional couple to rent, beginning May 1, Dave, 518-474-0496 or e-mail to tho160@lawlab.law.uwo.ca.



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### FOR RENT

Furnished three-bedroom house in downtown Guelph, living and dining rooms, modern kitchen, garden, one parking space, available from Feb. 1 to July 1995, \$800 a month plus utilities, Ext. 2156 or e-mail cmg209a@prodigy.com.

Self-contained furnished guest house in Elora, quiet and secluded, private, available daily or weekly, 846-8193.

Large furnished one-bedroom apartment in Victorian home, available from February 1995 to February 1996, Helen, Ext. 6223 or 836-2279.

Three-bedroom house, north end, immediate, \$800 a month plus utilities, 787-0395 evenings.

Three-bedroom house, large living room, eat-in kitchen, dining room with balcony, fireplace, two baths, available June 1, \$1,200 a month plus utilities, 763-2824.

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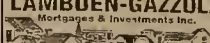
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# CALENDAR

## THURSDAY, JAN. 26

Economics Seminar - Tanis Day considers "The Economic Cost of Violence Against Women" at 3:30 p.m. in MacKinnon 132.

## FRIDAY, JAN. 27

Economics Seminar - Laura Brown of Queen's University discusses "Unemployment Insurance and the Business Cycle" at 3:30 p.m. in MacKinnon 132.

Cultural Studies Colloquium - Prof. Alan Filewod, Drama, chairs a round-table discussion of "Research and Scholarship in Cultural Studies" at 2:30 p.m. in the University Club.

## SATURDAY, JAN. 28

History Conference - History departments at U of G, Wilfrid Laurier and University of Waterloo are hosting an all-day conference in the third-floor classroom block of the MacKinnon Building. Registration begins at 9:10 a.m. President Mordechai Rozanski will chair a 2 p.m. plenary session featuring Carroll Smith-Rosenberg of the University of Pennsylvania discussing "Captured Subjects/Savage Others: Violently Engendering America."

## TUESDAY, JAN. 31

Workshop - "Encouraging Ethical Discussion in the Classroom" is the topic of a workshop offered by Teaching Support Services from noon to 2 p.m. in Animal Science/Nutrition 141. To register, call Helen Martin at Ext. 2973.

Cultural Studies Colloquium - Prof. François Paré, French Studies, explains the theory of marginalized cultures at 1 p.m. in MacKinnon 203.

Seminar - The Learning Resource Centre is offering a session on "Effective Time Planning" at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC-Level 3.

Student Leadership Series - "Motivation - Whips or Carrots?" is the topic at 5:10 p.m. in the Eccles Centre.



Princeton University philosopher Alan Ryan speaks Feb. 1 at 4 p.m. in MacKinnon 107.

## WEDNESDAY, FEB. 1

Third Age Learning - This lecture series for retired people continues with Margaret Beckman explaining "Information Technology and Libraries" at 10 a.m. and Noel Edison discussing "The Elora Festival" at 1 p.m. at the Arboretum Centre.

Biochemistry Seminar - Graduate student Patrick Nardini talks about "Genetic Characterization of *Pasteurella Haemolytica* Antigens" at 12:10 p.m. in MacNaughton 222.

Seminar - The Collaborative International Development Studies program presents Prof. Harry Cummings, Agricultural Economics and Business and University School of Rural Planning and Development, discussing "How Do We Assess Institutional Development Projects?"

Seminar - "Compulsory Liberation: Liberalism vs. Pluralism" is the topic of a seminar sponsored by the departments of Philosophy and Political Studies. Guest speaker is Alan Ryan of Princeton University. President Mordechai Rozanski will chair the session, which begins at 4 p.m. in MacKinnon 107. A reception will follow in the University Club.

Seminar - Prof. Terry Beveridge, Microbiology, will speak on "Bacterial Surfaces: Sophisticated, Elegant Garments That Interact Strongly with Their External Environment" at 4:10 p.m. in MacNaughton 113.

## THURSDAY, FEB. 2

Zoology Lecture - World renowned ichthyologist Eugenie Clark discusses "Sea Monsters and Deep-Sea Sharks" at 5:10 p.m. in OVC 1714.

Macdonald Stewart Art Centre - A program of films by and about artist Michael Snow continues with *A to Z* and *Standard Time*, beginning at 7:30 p.m. Admission is free.

## FRIDAY, FEB. 3

Cultural Studies Colloquium - Maureen McNeil of Birmingham University offers a cultural studies analysis of fetal alcohol syndrome at 2 p.m. in Macdonald 129.

## SATURDAY, FEB. 4

Symposium - A "State of Our Earth" all-day symposium begins at 9 a.m. in Peter Clark Hall. Cost is \$3 for U of G students, \$5 for guests. For information, call Lisa at Ext. 77598.

Concert - The Department of Music and the Macdonald Stewart Art Centre present cellist Brian Epperson and pianist Leslie Kinton performing works by Beethoven, Barber, Haydn and Schumann at 8 p.m. at the art centre. Tickets are \$10 and \$8.

## WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thombrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

Nick Kaethler will conduct a musical service called "Singing Our Lives" Jan. 29 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road.



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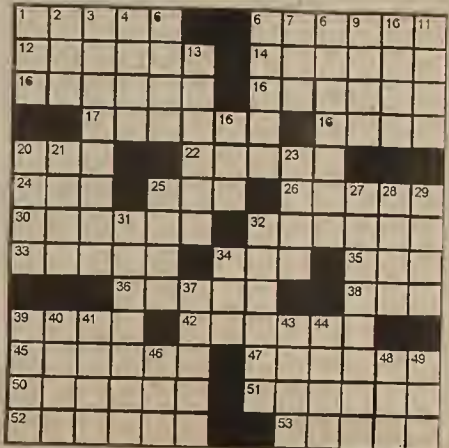
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### ACROSS

1. Morocco capital

6. Polynesian woman

12. Fairy king

14. Bible book

15. Of dogs

16. Soften in temper

17. Pied cat

19. Be defeated

20. Tibetan gazelle

22. Jeweled coronet

24. Muster forces

25. Winnipeg skater

26. Make into statues

30. Sartorial worker

32. Rider's seat

33. Boredom

34. Termination

35. Manager: abbr.

36. Earth's treasure guardian

38. One billion years

39. Reagan's secretary of state

42. Fire god

45. Use a file

47. More sonorous

50. Arboreal bird

51. Christmas tree

52. Source of strength

53. Aegean island

### DOWN

1. "Arabian Nights" bird

2. Emir's garment

3. Mr. Franklin

4. Opera highlight

5. Chinese society

6. German river

7. Guitar: slang

8. Window shade cloth

9. Concept comb. form

10. Vowers of chastity

11. Italian family

13. Siding with no one

18. River isle

20. Movable

21. Algerian seaport

23. Pore over

25. Sign up

27. Book appendix

28. History muse

29. Aquatic bird

31. Suitcases, trunks, etc.

32. Fishhook lines

34. Bird from down under

37. Range chambers

39. Pillboxes

40. French dugout

41. horse (locomotive)

43. Rolls of thread

44. Invisible emanation

46. "Leave It To Beaver" actor

48. Environment comb. form

49. Legal matter

For crossword  
solution, see page 2.



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# We're in the news!

## U of G attracts national coverage of research, events

The University of Guelph aims for national media coverage, and that's what it got in 1994! Such coverage is a major means of gaining a profile and the attention of potential students and their parents, faculty, donors and government funding agencies across the country. Many faculty helped in this effort by taking time to "meet the media."

Key national media, such as the wire services, TV networks and the *Globe and Mail*, provided much positive coverage of U of G. Canadian Press, the country's major wire service, carried 127 stories related to the University. Network TV crews, especially CTV and Global, were on campus frequently throughout the year and invited faculty to appear on shows such as *Canada AM* and *Prime Time News*. Reporters regularly came to campus to cover conferences and research stories.

1994, the International Year of the Family, offered many opportunities to convey news about Guelph's extensive expertise in this area. Stories that garnered extensive media coverage included the book, *Among Generations: The Cycle of Adult Relationships*, by Profs. Joan Norris and Joseph Tindale, Family Studies, and research into the high proportion of elderly living in rural areas by Prof. Alun Joseph, Geography.

Research and researchers in many other disciplines also made the news. A few of the faculty whose work set phones ringing with requests for interviews were:

- Prof. Ward Chesworth, Land Resource Science, on defunct acid mines;
- Prof. Owen Slocumbe, Pathology, on heartworm in dogs;
- Prof. Michael Dixon, Horticultural Science, on "the breathing wall";
- Prof. Eugene Benson, English, and Leonard Conolly, former associate academic vice-president, *Encyclopedia on Post-colonial Literature*;
- Prof. Gordon Surgeoner, Environmental Biology, on mosquitoes;
- Prof. Frances Sharom, Chemistry and Biochemistry, on a naturally occurring "drug pump"; and
- Prof. Karen Korabik, Psychology, on why women leave the workforce.

To maximize coverage of some major campus events, considerable communications planning was carried out. In May, the Canada-Wide Science Fair brought 800 students and judges to campus from across Canada. In addition to gaining coverage from external media, University Communications used the event

to inform a broad spectrum of the public about the joys and benefits of science for young people. This resulted in Rogers Cable TV of Kitchener producing a half-hour video about the fair, which aired nationally, and the publication of an eight-page supplement in the *Daily Mercury*.

Some other major events that gained significant attention were the annual sexuality conference, a conference on farm animal welfare and the Ecosystem Health Conference in Ottawa.

External Communications encourages coverage in many ways. These include maintaining contact with media by phone or in person, initiating interviews and coverage of University achievements and events, developing and implementing communications plans for special events, annually distributing some 250 targeted press releases about research, campus news and upcoming events, and distributing a directory of faculty expertise called *Ask Our Experts!*

Over the past year, technological developments have created changes in the way External Com-



A book about intergenerational relationships by Profs. Joan Norris and Joseph Tindale traces and illuminates cycles within families.



Prof. Michael Dixon set up a "breathing wall" in Toronto's Canada Life building to test the potential for using natural flora and fauna to improve indoor air quality.

munications gets the news out, and more are in the offing. The unit's staff are members of computer networks such as PIONET, which connects them to their counterparts at universities across North America and beyond, and PROFNET, which connects them to reporters seeking expert comment from university faculty.

Releases are increasingly being conveyed electronically rather

than by mail. Fax distribution is common, posting on Gopher is in the works, and World Wide Web will become another means of getting the good word out about the University in 1995.

Faculty and staff who need help in communicating with the media or other external groups are encouraged to call Andrea Mudry Fawcett at Ext. 3839 or Margaret Boyd at Ext. 3338.

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Former astronaut Roberta Bondar was a mentor for Canada-Wide Science Fair '94. The OAC graduate encouraged young scientists to pursue research for the pleasure of better understanding the world.



## FIRST GLANCE

### Axworthy paper under discussion

All members of the University community are invited to attend a Feb. 8 round-table discussion of the proposals put forward by Human Resources Minister Lloyd Axworthy in his discussion paper on social-security reform. It will run from 7 to 9 p.m. in Room 1714 of the OVC Learning Centre.

Moderator of the forum is College of Social Science dean David Knight. The evening will consist of a panel presentation followed by open discussion and debate.

Panel members will include Prof. Robert Swidinsky, Economics, who will discuss the economic context of Axworthy's proposals; president Mordechai Rozanski on the proposals related to post-secondary education; research associate Frank Stark, Sociology and Anthropology, on concerns about poverty and social assistance; and Prof. Donna Lero, Family Studies, who will focus on work and family issues. Members of the Graduate Students' Association and Central Student Association will also comment.

For those interested in reading a summary of the discussion paper, it will be on reserve in the library for Lero's course "Issues in Family-Related Social Policy."

### Inside:

TSS helps ease transition into technology . . . . 3

Poultry research takes flight . . . . . 4

Manager of Special Security Services takes up post . . . . . 5

### Thought for the week

*Consistency is the last refuge of the unimaginative.*

Oscar Wilde

**DOWNTOWN  
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### A banner day for students

Members of the Central Student Association executive gather underneath their banner urging students to participate in the Jan. 25 "National Day of Action" protests against proposed social reforms, which are expected to lead to the doubling of tuition fees. About

300 U of G students marched across campus end to the downtown office of MP Brenda Chamberlain; another three busloads of students headed to Toronto to join 10,000 students for a demonstration at Nathan Phillips Square.

Photo by Kenth Waddington, University Communications

## Fund-raising efforts exceed goal for 1994

U of G has topped its fund-raising goal for 1994.

President Mordechai Rozanski told Board of Governors Jan. 26 that more than \$5.2 million has been raised, five per cent over the \$5-million target.

The three categories under cash gifts are annual giving, which reached 103 per cent of its goal; major giving, 137 per cent of goal; and planned giving (such as will bequests and insurance policies), 58 per cent of goal. In addition, \$2.9 million was raised in deferred pledges, achieving 116 per cent of goal, and gifts-in-kind totalled \$249,931.

The Campus Fund also went over goal, raising \$175,794, which is 126 per cent of the \$140,000 goal (including campus alumni) set for the fund. Designations include support of scholarships, equipment, the Arboretum, memorial funds and other projects.

At the B of G meeting, Rozanski praised the efforts of University Affairs and Development (UA&D), particularly Pam Healey and the staff in the Development Office.

"I am very appreciative of the outstanding results achieved by the Development Office in difficult circumstances," said Rozanski. "This speaks to the quality, dedication and teamwork of all the UA&D staff and the supportive guidance offered by Ken Murray."

Murray, who is UA&D's acting executive director, said last week that the unit had a great year because staff began to operate as a team. "We were focused on the future, and we developed policies and procedures that are donor-driven while reflecting the diverse needs of the University. Above all, we had fun."

The Development Office is responding to the University's current challenges by increasing the size of its donor base and the size of gifts, and by encouraging giving to the University's priority needs, said Healey.

Promoting giving to U of G's greatest needs will be done through priority projects, unrestricted gifts and naming opportunities designed to help relieve operating costs. An example of these new opportunities is the endowment of a professor's position.

"We are finding ways to package the University's needs so that more gifts will directly offset operating costs," Healey said.

Fund-raising priorities in 1995 are the Annual Fund, which includes \$120,000 in support for the Aquatic Sciences Facility, the President's Entrance Scholarships Endowment Fund and the Office of First-Year Studies.

Increased giving to the Annual Fund will be encouraged through the University of Guelph Society and its new giving levels. In 1994, the Annual Fund raised \$1.81 million, exceeding its goal of \$1.75 million. This compares with \$1,642,065 raised in 1993.

The Aquatic Sciences Facility has raised \$4.1 million in cash and pledges; \$1.9 million is left to raise from the private sector. Proposals are currently out to about 25 foundations and corporations. Construction of Phase I is scheduled to begin this spring.

The President's Entrance Scholarships Endowment Fund is raising money to endow the 10 \$16,000 scholarships given out each September. To date, five of the scholarships have been named and the fund has raised more than \$1.425 million. A balance of \$1.775 million has to be raised to name the remaining five.



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by David Westglass  
Gordon Coulthart

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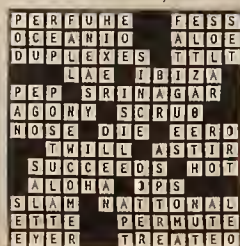
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## LETTERS

## Physics not inconsistent

Because of the length of the final report of the Academic Planning Committee (APC) published as a supplement to *At Guelph* Jan. 18, I decided to start by looking at the committee's recommendations about the Department of Physics, of which I am a member. And what I found there was astounding.

In the final paragraph of that section of the report, APC says the "interdepartmental biophysics graduate program" is a matter of concern because "most of the students... do not take a significant part of their course work in Physics. This seems inconsistent with the students being awarded a physics degree" (my emphasis).

Apparently, for all the expertise available to it, the committee was ignorant of the fact that the academic programs of students in the "interdepartmental biophysics

graduate program" are controlled by the Biophysics Interdepartmental Group (BIG) and not by the Department of Physics, that the discipline of biophysics includes much that is not physics and, finally, that students do not receive "a physics degree," but actually receive a degree in biophysics.

There is, in fact, no inconsistency, nor has there ever been. Since its inception, BIG has tailored students' programs to their areas of biophysical research; these programs have often included no "real" physics courses. I should know because I was chair of BIG from 1980 to 1985. And so should APC committee member Prof. Jack MacDonald (now academic vice-president, but formerly chair of the Department of Physics and Dean of the then College of Physical Science).

This may seem a small matter, but if it's indicative of the general level of "scholarship" in APC's final report, then I fear that despite the tremendous amount of time and effort this report must have required, it deserves to find its way to the great report recycling centre, there to be reduced to its atoms and reconstructed into something accurate, substantial and useful.

**Prof. George Renninger**  
Biophysics  
Interdepartmental Group  
Department of Physics

## Thanks for the support

I would like to thank the nominators and the selection committee for the R.P. Gilmor Student Life Award, which I received in December. I would also like to thank my mentors and friends for their encouragement and support during my stay at the University.

**Baljit Singh**  
Atlantic Veterinary College



Looking over some of the Scottish novels recently acquired by U of G are, from left, Scottish Studies Foundation head Bill Somerville, Tim Sauer of the library and foundation board members Alan McKenzie and David Hunter.

Photo by Marie Fraser

## Scottish novels acquired

U of G has acquired 1,327 Scottish novels, 1,000 of which are new to its Scottish studies collection.

This acquisition significantly builds the University's renowned collection in Scottish studies, says Tim Sauer, head of collection development in the U of G Library.

Purchase of the collection was negotiated with a Scottish used-book dealer and made possible by funds from the Scottish Studies Foundation.

A rarity in the collection is a copy of John Galt's novel *Glen-celly*, one of only four in existence.

## VISITOR

Maureen McNeil, an internationally recognized scholar in the areas of history, philosophy of science, political studies, women's studies and cultural studies, is on campus this week to speak as part of the College of Arts colloquium on cultural studies at U of G.

She will discuss "Fetal Alcohol Syndrome: A Case Study Within Cultural Studies of Science and Technology?" Feb. 3 at 2 p.m. in Room 149 of Macdonald Hall.

McNeil holds the Nancy Rowell Jackson Chair of Women's Studies at Mount St. Vincent University and is a senior lecturer in cultural studies at the University of Birmingham, England. She is author of *Under the Banner of Science: Erasmus Darwin and His Age*, editor of *Gender and Expertise* and co-editor of *The New Reproductive Technologies and Deciphering Science and Technology*.

## Donations sought for Kobe victims

The Japan Society has joined the Japanese Canadian Cultural Centre in its efforts to raise financial aid for victims of the earthquake in the Kobe region of Japan.

Send contributions to either the Canadian Red Cross Society, 1623 Yonge St., Toronto M4T 2A1, or the Kobe Fund, c/o Japanese Canadian Cultural Centre, Box 191-123 Wynford Dr., Don Mills M3C 2S2.

## Obituary

Retired staff member Bill Stewart died Nov. 26 at McMaster University Hospital. He was employed by the Department of Animal and Poultry Science, primarily working out of the Elora Research Station, from 1966 until his retirement in March 1994. He is survived by four daughters, Margaret, Lynda, Colleen and Diane.

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## POSITIONS ELSEWHERE

The University of Northern British Columbia is seeking candidates for the position of president to assume duties July 1. Send applications and nominations to the Landmark Consulting Group Inc., 1455 Lakeshore Rd., Suite 206-S, Burlington I7S 2J1, fax: 905-634-1882.

The University of Alberta is seeking a vice-president (academic) to assume duties July 1. Applications or nominations with curriculum vitae should be sent to Ellen Schoeck, Executive Assistant to the President, Room 2-1 University Hall, University of Alberta, Edmonton, Alta. T6G 2J9.

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Offices: University Communications, Level 4, University Centre, University of Guelph, Guelph, Ontario N1G 2W1. Telephone: 519-824-4120, fax: 519-824-7962. Office hours: 8:30 a.m. to 4:45 p.m.



# TSS restructuring reflects changing approach to learning

by Kerith Waddington  
University Communications

Technology is changing the role of teaching, so Teaching Support Services (TSS) has restructured to work more closely at the departmental level and ease the transition.

Three units — the Teaching Resource Group, Learning Technologies Group and Classroom Technical Services — now form TSS and work together out of Day Hall to strengthen faculty contributions to enhanced teaching and learning across campus.

Recognizing that the role of teachers will change from content specialists to student-learning specialists as technology works its way into the classroom, TSS co-director Prof. Ron Stoltz believes that emphasis must be placed on departments and discipline-related technologies and development.

"Changes will occur at the departmental level, which is the intersection between the institution and the discipline," he says. "The new teaching role will be to facilitate the learning process as forms of multimedia take over delivery

of the content."

Enhanced skill acquisition, planning and use of rational thinking by students are a few of the educational spinoffs expected to emerge from more sophisticated learning environments made possible by technology, says Stoltz. The placement of learning technology co-ordinators in the colleges — supported by application specialists — will ease the transition, he says.

Collaboration between faculty and Learning Technologies Group staff is particularly important, says specialist Colleen Hopkins. "By teaching and training as we go along, a knowledge base will be formed within departments that others can use," she says.

Adds co-ordinator Les Richards: "Given that each department has specific needs and that demand for technical aid continues to increase as the climate of universities changes, this independent base of knowledge will become a necessity."

TSS reports to associate academic vice-president Constance Rooke, who says she's excited about the restructuring and what it



Teaching Support Services (TSS) staff involved in operating and assessing the Pictoretel video-conferencing system gather around a screen that captures an image of the conference room and the photographer. (This would be the picture received by another site once contact had been established). From left

are Prof. Al Lauzon, Rural Extension Studies; manager of operations Ruth Gillespie; George Taylor, manager of classroom technical support; technical co-ordinator Steve Borho; and TSS co-ordinator Prof. Ron Stoltz. Absent is co-director Prof. Tom Carey.

Photo by Kerith Waddington, University Communications

will mean for faculty.

"More direct contact with faculty will help them become more comfortable with learning technologies, subsequently making the shift in the role of teaching just that much easier," she says.

To help set this process in motion, TSS is holding an open house

Feb. 10 from noon to 3 p.m. in the Teaching Resource Centre in Room 125 of Day Hall.

Students, staff and faculty are invited to surf cyberspace, learn about the Internet and World Wide Web and become familiar with additional technology to be demonstrated by staff.

Also on display will be Pictoretel, the latest in video-teleconferencing, which is on campus for a one-semester trial for faculty to use for purposes such as administrative discussions between institutions, joint faculty meetings, seminars and for bringing in guest lecturers.

## Lifelearn captures gold medal for self-study module

by Margaret Boyd  
University Communications

Lifelearn V. Inc. has been awarded the Chairman's Gold Award of the International Compact Disc Interactive (CDi) Association for the most outstanding consumer CDi program for 1994. The award was presented for Lifelearn's first self-study module — Module One in the Companion Animal Dentistry Certificate Series.

The module was "very impressive and clearly deserved the

award for most outstanding CDi," the International CDi Association said. It was the association's third annual international competition.

"This module and those to follow will provide veterinarians with vital pieces in the puzzle of ongoing professional development," says Chas Povey, president of Lifelearn V. Inc. "Lifelong learning is essential in building total quality practice. The recognition our production has received is further evidence that Canada is at the forefront of knowledge-

based business."

The CDi disc features a series of real-life clinical cases and raises a number of critical learning issues. The learner works through the cases from clinic presentation to home aftercare and follow-up, and diagnostic and therapeutic decisions must be made based on the multimedia information. This information includes full-motion video, diagnostic test options and results, a resource library, tips from the expert authors and demonstrations of techniques.

The CDi system plays on a television screen and an inexpensive CDi disc player, and requires no special computer equipment.

Lifelearn programs in fields such as veterinary dentistry, veterinary cardiology and dairy health management provide multiple-media self-study learning modules. Veterinary dentistry is one of the most rapidly growing areas of veterinary practice.

Lifelearn V. (for veterinary) is a private company with U of G/OVC as the largest single shareholder. Other shareholders are the Atlantic Veterinary College at the University of P.E.I. (together with the veterinary associations of all the maritime provinces), veterinary practitioners and private individuals. It was founded to provide a co-ordinated international approach to continu-

ing education and professional development for vets and allied fields.

Lifelearn V. Inc. has established offices in Grand Island, N.Y., and Newmarket, England, and is developing partnerships in many parts of the world.

The module co-ordinator was Harold Pook; the production team was headed by Jim Stowe. Kathy Cavanagh led the planning group, and Leah Aurini led the multimedia team of Rebecca Brebner, Dianne Drummond and Blair Wilson. The authors/scriptwriters of the module are world-renowned experts in the field: James Anthony of Vancouver, Peter Emily of Denver, Cecilia Gorrel of the United Kingdom, Colin Harvey of Philadelphia and Pook.



The Guelph connection

The hill that joins U of G to the city of Guelph became a little less steep last week as University administrators and city councillors and department heads got to know each other at a reception hosted

by president Mordechai Rozanski. From left are Keith McIntyre, U of G's director of safety and security services, Rozanski, Mayor Joe Young and new city police chief Lenna Bradburn.

Photo by Martin Schwalbe

## Convocation Feb. 2 & 3

More than 750 students will graduate during four ceremonies Feb. 2 and 3 in War Memorial Hall. This winter marks the convocation of Guelph's largest-ever class of graduate students — 180.

During the ceremonies, Canadian composer John Beckwith will receive an honorary doctorate of music, comparative literature scholar Edward Said will receive

an honorary doctorate of letters, environmental engineer James MacLaren will receive an honorary doctorate of laws, and world-renowned ichthyologist Eugene Clark will receive an honorary doctorate of science.

In addition, retired engineering professor Trevor Dickinson will be named University professor emeritus.

## Business conference set

About 600 students, faculty and local industry representatives are expected to attend the business conference Ubiquity '95 Feb. 7 at 7 p.m. in War Memorial Hall.

Speakers are Bill Parks, president of Pioneer Hi-Bred; Alan Quarry, president of Quarry Com-

munications; Martha Jakowlew, president of Elliott Coach Lines; and reps from Loblaw's Companies and Campbell Soup Limited.

Admission to the conference is free. For more information, call Derek Bell at 836-0746 or e-mail to dbell@uoguelph.ca.



# Poultry research earns international acclaim

by Nicole Kennedy  
Office of Research

"Low fat" was not a term commonly heard in the meat industry 20 years ago when Prof. Shai Barbut entered the research arena and set his sights on poultry studies. But as consumers became aware of the health benefits of poultry products, the industry skyrocketed. Constant innovation was needed to meet demand, and Barbut tried to answer some of the challenges. Now, his contributions have been recognized with a prestigious award.

Barbut, who holds a joint appointment with the departments of Animal and Poultry Science and Food Science, received the 1994 Continental Grain Company Poultry Products Research Award. Each year, the Poultry Science Association, an international organization of industry and academia members, presents the award to an individual judged to have developed outstanding innovations in poultry production. Barbut was chosen from nominees around the world.

The association recognized him for conducting research that has forged firm links between the poultry industry and the scientific community, and for converting basic knowledge into applicable practical results.

"Poultry consumption has doubled over the last 20 years, which makes the industry a tremendous opportunity for researchers," he says. "The field is dynamic, innovative and challenging."

His research has had an impact on the efficiency of the meat industry. By studying ways to minimize losses due to downgrading and spoilage, he has helped de-



Prof. Shai Barbut

Photo by Trina Koster, Office of Research

velop production methods that could result in significant savings for producers, while improving product quality for consumers.

Some innovations sparked by research involving Barbut include:

- A fast and non-destructive color-evaluation system to access the quality of poultry meat, based on a fibre-optic probe that distinguishes between

high-quality and low-quality meat without physically touching it. Separating the poor-quality meat improves yields and reduces the problems associated with product failure. Because the current poultry meat-grading system in Canada and elsewhere is based only on esthetics, this innovation means poultry can also be graded on the functional properties of the meat. "With fibre-optic technology now available to the poultry industry, Cana-

dian producers have a significant advantage over competitors," Barbut says.

- Low-salt processed meat products. Salt-soluble proteins have traditionally acted as the "glue" holding processed meat together, but consumers are demanding low-salt products. Barbut and his colleagues have helped develop alternative low-sodium formulations that can also act as effective hindering agents.
- A unique course designed for the meat industry. Each year at U of G, Barbut leads an intensive 2 1/2-day program on basic technologies and applied aspects of meat science. With lectures, labs and demonstrations, he and Walter Knecht, president of Hermann Laue Spice Company Inc., teach medium-to large-scale meat processors how processing affects the texture, color and microstructure of meat products. "It's a first-hand opportunity to keep up to date with the problems in the industry, and it provides a medium to communicate our own new research developments," Barbut says.

Despite these successes, he isn't resting on his laurels. He was recently awarded funding from the Ontario Ministry of Agriculture, Food and Rural Affairs to investigate the causes of pale, soft and exudative meat in turkeys. Barbut studies the effects of bird type, age, season and breed in hopes of finding a key to the causes of the costly problem.

"Increasing the base of knowledge can yield important practical results," says Barbut. "The industry is recognizing that. As a researcher, it's fulfilling to get international recognition for what you like to do."

## AWARDS

The Natural Sciences and Engineering Research Council (NSERC) awarded \$116,059 to Prof. Stan Blecher, Molecular Biology and Genetics, for a project titled "Non-Invasive Sexing of Bovine Embryos and Sperm."

The B.C. Matthews CBS Fund granted the following awards:

- \$9,250 to Prof. Derek Bewley, Botany, for his work on "Regulation of Endo-Beta-Mannanase Activity in Seeds";
- \$8,675 to Prof. Terry Beveridge, Microbiology, for "Fundamental Medical and Biogeochemical Studies on Bacterial Surfaces";
- \$5,048 to Prof. Peter Krell, Microbiology, for "Characterization of Baculovirus DNA Replication"; and
- \$5,300 to Prof. David Noakes, Zoology, to study "Behavioral Ecology and Biodiversity of Salmonid Fishes."

Prof. John Dutcher, Physics, was awarded \$5,000 from Forestry Canada/Petawawa National Forestry Institute for "Development of Subsumption-Based Software to Control an Autonomous Walking Robot."

Simon Fraser University has provided Prof. John Holt, Mathematics and Statistics, with \$1,000 as study expenses for Yahya Boneng.

Prof. Roger Horton, Botany, received \$2,750 from Kenya/CIDA Kenya-Canada Agriculture Research Training as study expenses for Alice Muriithi.

Prof. Robert Lencki, Food Science, was awarded \$45,000 by the Dairy Bureau of Canada for "Value-Added Processing of Milk Fat: Butter and Cheese Flavor Concentrates, Dietetic Short-Chain Triglycerides, Cholesterol."

Prof. Hung Lee and Jack Trevors, Environmental Biology, received \$72,486 from the Institute for Chemical Science and Technology for "Improving Properties of Haloalkane Dehalogenase."

Prof. Deborah Stacey, Computing and Information Science, received \$472,000 (\$50,000 in-kind) from Morphometrix for "Feature Selection for the Classification of Cervical Cells Using Artificial Neural Network, Genetic Algorithm and Fuzzy Logic Techniques." She was also awarded \$5,400 by Traxle Manufacturing Ltd. for a "Feasibility Study for Artificial Neural Network Analysis of the Control of a Straightening Press for Truck Axles."

Prof. Clarence Swanton, Crop Science, was awarded \$5,000 by Natural Resources Canada for "Crop Tolerance Trials for Isoxa-ben (Gallery) Herbicide in Support of the User-Requested Minor User Registration" pilot project.

NSERC awarded Prof. Kees DeLange, Animal and Poultry Science, \$26,250 for his work on "Amino Acid Utilization in Growing Pigs." He also received \$24,000 from NSERC's research partnership program with Agriculture and Agri-Food Canada to study "Energy and Protein Utilization in Growing Pigs" and \$20,000 from Degussa Canada for the project "Amino Acid Catabolism."

Prof. Denis Lynn, Zoology, received \$6,000 from U of T to study "Silicates in Water."

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## SSHRC appoints six

Industry Minister John Manley has announced six appointments to the Social Sciences and Humanities Research Council:

- Jane Gaskell, associate dean of graduate programs and research at the University of British Columbia;
- Richard Guscott, head of the affective disorders program and director of postgraduate education at Sunnybrook

Health Science Centre;

- Kathy Mezei, chair of the department of English at Simon Fraser University;
- Bruce Muirhead, chair of the department of history at Lakehead University;
- James Torczynier of McGill University's school of social work; and
- Maïr Verthuy, a literature professor at Concordia University.

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John Mark is U of G's new manager of Special Security Services.

Photo by Kerith Waddington, University Communications

## Special Security Services manager wants to join forces with community

John Mark — formerly a member of both the Metro and Orillia police departments and manager of security services with the Metro Toronto Housing Authority — becomes U of G's new manager of Special Security Services Feb. 2. His position is new — an amalgamation of the responsibilities formerly held by the U of G police and fire chiefs.

But although facing the challenges of a new type of community, a new staff and a new position, Mark arrives on campus armed with a focus for the future and the belief that his blend of practical experience stands him in good stead.

"An open mind and flexibility to change are necessary to accommodate the needs of any community and changes occurring within it," he says. "Having previously worked with both police and fire departments in large and small cities, I believe I will be able to apply both to the betterment of security services here on campus."

Working in partnership with groups already in place at U of G, evaluating the efficacy of present security systems and meeting with students, staff and faculty to hear their concerns — these are the ways Mark plans to keep in touch with campus needs and gear

services towards them.

The training needs of security staff will continue to be evaluated with the help of director Keith McIntyre, says Mark, and close communication with city police and fire department personnel will be maintained.

He believes that teamwork — both among security staff and in the community at large — is key to making services effective and the campus a safe place to be.

"Problems can be solved and security issues properly addressed through the sharing of ideas and concerns among the entire community."

## One world campaign

### Co-operation needed to solve global problems

Developing countries worldwide will introduce themselves to the Guelph community via campus and local initiatives this month.

"Together We Can Change Our World" is the theme of the fifth International Development Week Feb. 6 to 10 — a series of special events designed to increase understanding of the lives and daily challenges of people living in the developing world.

Jana Janakiram — an educational programmer with International Education Services (IES) who is co-ordinating events along with students Zahra Hirani, Kim Gibbons and Julie Byczynski — stresses the importance of working together to build a better future.

"We live in an interdependent world, so whatever happens in one part of the world affects another," he says. "As we share a common future, co-operation among peoples is necessary to find solutions to global problems."

International Awareness Week events include:

Feb. 6 — "World on a Plate" highlights the customs, cuisine, music and traditional dress of

various countries at 6 and 8 p.m. at International House. For tickets, call Gibbons at Ext. 78342.

Feb. 7 — "Co-operatives and Development in the Philippines" is the topic at 12:10 p.m. in Room 442 of the University Centre.

Feb. 9 — Helen Lieberman and Tony Isaac of IKAMVA LABANTU (Future of Our People), a South African grassroots organization for social programs, speak at 2 p.m. at Onward WilLOW, 58 Dawson Rd. Call David Dickman at 821-2060 for reservations. At 7:30 p.m., discussion focuses on "Peace and Education in Mozambique" in UC 335.

Feb. 10 and 11 — The Guelph-Wellington Coalition for Social Justice is holding a conference called "Circle of Voices" to discuss issues of poverty, employment and global restructuring. It runs from 6 p.m. Friday and from 9 a.m. Saturday at Dublin Street United Church. Cost is \$10. For more information, call Moira Grace at 823-1030.

Feb. 11 — The African Students Association is hosting a dinner and dance with food and music from different countries beginning at 6 p.m. at St. Matthias Church (Kortright and Edinburgh). Tickets are \$8 and are available from the association.

Feb. 11 — A Crossroads International workshop begins at noon at the Eccles Centre, followed by a potluck dinner at 5:30 p.m. For details, call Gibbons at Ext. 78342.

Feb. 17 and 18 — A Working in Development Conference runs from 7 p.m. Friday at Massey Hall and from 9 a.m. Saturday at Harcourt Memorial United Church, 87 Dean Ave. Register at the Connection Desk on Level 3 of the University Centre.

Feb. 18 and 19 — "Gender: Power, Participation and Economic Justice" is the topic of a workshop at 9:30 a.m. at Dublin Street United Church. Call 821-5710.

IES educational programmer Lynne Mitchell says a highlight of the week will be the student-organized Working in Development Conference, which features workshops on topics such as peace and conflict, ethics and consumerism, and socially sustainable development. She notes that the community-building workshop is testimony to the fact that international issues can also be local.

"It is irresponsible to suggest that development only needs to occur in other countries," she says. "Certain concerns — like quality of life and community development — affect all nations, including our own."

The conference is limited to 100 participants on a first-come, first-served basis. Call Mitchell at Ext. 6914 for more information.

## Faculty Club name change reflects diversity

by Kerith Waddington  
University Communications

What's in a name? A lot, according to the University Club, which has changed its name from Faculty Club to reflect its new, more open membership policy.

In the past, the club was open to only faculty and professional staff. Now, any member of the campus community whose primary status is as an University employee is welcome to enjoy the atmosphere and special events offered by the club.

Manager David Overton believes this change reflects a sense of community. "Inclusiveness is in," he says. "Co-operation among groups and individuals is more indicative of society and the University community. The club hopes to encourage and strengthen co-operation on campus with a more diverse membership."

Chartered in 1968 and originally located in Johnston Hall, the Faculty Club moved to the University Centre 15 years ago to increase accessibility. The official name change — made in September 1994 — is one more step in this direction and one that club president Prof. Wayne Pfeiffer, Agricultural Economics and Business, believes the entire University community will benefit from.

"An increase in information exchange among different areas of the University will result in better communication and more collaboration across campus — the benefits of which are bound to improve the programs we offer to students."

Pfeiffer believes the membership change more accurately reflects the diversity of in-



University Club manager David Overton, left, and club president Prof. Wayne Pfeiffer display the new logo that reflects the changed policy of the former Faculty Club.

Photo by Kerith Waddington, University Communications

dividuals involved in making the campus tick.

Located on Level 5 of the University Centre, the University Club has a membership of about 450. It offers muffins and coffee to the early morning crowd, homemade soup, sandwiches, hot meals and a salad bar over the noon hour and snacks until closing.

The club hosts special events throughout

the year, such as a Rubbie Burns supper, dinner theatre and art show openings, both local and national. The facility can also be booked for private and business parties or departmental meetings; members receive a reduced rate.

Membership is \$13 a month. For more information or to join, drop by the club or call Ext. 8578.



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## NOTICES

### Convocation parking

To accommodate convocation guests Feb. 2 and 3, lots P.23/24 (Textiles Building) and P.44 (Johnston Hall) will be reserved, except for premium parking spaces. Alternative parking for regular users may be found in P.19, P.17 and P.7. Offending vehicles will be ticketed or towed.

### Career contacts

Job Fair '95, sponsored by U of G, the University of Waterloo, Conestoga College and Wilfrid Laurier University, is Feb. 15 from 10 a.m. to 3:30 p.m. at the Bingham Conference Centre in Kitchener. Employers will be on hand to discuss permanent, contract and summer jobs. Admission is free for students and alumni. For information about free transportation, visit the Career Centre on Level 3 of the University Centre.

### Owl prowls

There is still space left in the Arboretum's Feb. 3 "Night Stalker's Owl Prowl," which leaves from the J.C. Taylor Nature Centre at 7 p.m. Call Ext. 4110 to register.

### Valentine teas

Guelph Museums will hold Valentine teas Feb. 13 and 14 at 2 p.m. at McRae House. Cost is \$5 per person. For reservations, call 836-1221.

### It's a grand river

The next meeting of the Guelph Historical Society is Feb. 7 at 8 p.m. at St. Andrew's Church on Norfolk Street. Guest speaker Barbara Veale, manager for policy and research with the Grand River Conservation Authority, will discuss "The Grand River as a Canadian Heritage River."

### Credit transfer guide

An "Ontario Transfer Guide" is now available to give students the information they need to transfer credits between colleges and universities in the province. Institutions where both a degree and diploma can be earned are also listed. The guide is being sent out to high schools, public libraries, colleges, universities and key educational organizations. Copies are also available through Publications Ontario.

### Come to the cabaret

The spotlight is on love and music Feb. 4 when the Guelph Chamber Music Society holds its annual fund-raising Valentine Cabaret at the College Inn. Doors open at 7:30 p.m.; show time is 8 p.m. Tickets are \$25 each and are available at the UC box office.

### Focus on Guatemala

Guelph Museums presents an exhibit and lecture series on the Guatemala School Project 1994 Feb. 1 to March 8 at the Guelph Civic Museum. For more information, call 836-1221.

### Secretaries to meet

The next meeting of the Guelph chapter of Professional Secretaries International is Feb. 8 at 6 p.m. at the Cutten Club. Guest speaker Suzanne Longpre of The Co-Operators will offer "Tips for Planning and Organizing Meetings."

New members are welcome. For more information, call Ext. 6348.

### Honorary degrees

The Senate Executive Committee is accepting nominations for honorary degree recipients until Feb. 28. For more information, call the Senate Office at Ext. 6758.

### Ecosystem workshop

The Guelph and Waterloo Tri-Council-funded Eco-Research Projects are sponsoring "The New Science: A Workshop on the Ecosystem Approach and Its Applications to Agriculture and Governance" Feb. 21. The all-day workshop begins at 9 a.m. in Room 1714 of the OVC Learning Centre. For a full agenda, call Sharon Fletcher at Ext. 8480.

### Spiritual talk

"The Sacred Feminine," a weekly video and discussion group on women's spiritual journeys, runs Wednesdays at 12:10 p.m. in UC 334. For more information, call Rev. Lucy Reid at Ext. 2390.

### At the art centre

Continuing at the Macdonald Stewart Art Centre until Feb. 26 is the show "Michael Snow: The Walking Woman Works," featuring pieces in various media. On until March 12 is the exhibition "Printmakers at Riverside," focusing on the works of eight Ontario artists who have been influenced by working with artist Stu Oxley.

### Ryerson appointment

Claude Lajeunesse will step down as president of the Association of Universities and Colleges of Canada Aug. 31 to become the seventh president and vice-chancellor of Ryerson Polytechnic University. He succeeds Terence Griener.

### Wind ensemble

The Wellington Winds concert series continues with "Spring Is Around the Corner" Feb. 12 in Elmira at the Woodside Bible Chapel and Feb. 19 in Kitchener at Grandview Baptist Church. Both concerts begin at 3 p.m. Tickets are \$10 and \$6.

### Science report

The 1992/93 annual report of the Science Institute of the Northwest Territories is now available. For more information, call University Communications at Ext. 6582.

### Standardbred seminar

The Equine Research Centre (ERC) will hold its second standardbred seminar Feb. 11 from 9:30 a.m. to 5 p.m. at the Royal Canadian Legion in Guelph. Topics include "Preparing the Mare for Breeding," "Emergency Care of Fractures" and "Pharmaceuticals and Racing." Cost is \$59. To register, call the ERC at 837-0061.

## JOBS

As of At Guelph deadline Jan. 27, the following opportunities were available to on-campus employees only:

**Agricultural Assistant, Veterinary Teaching Hospital, temporary from April 1/95 to Aug. 28/96.** Normal hiring range: \$13.17 to \$14.71 per hour. Removal date: Feb. 3.

**Custodian 3, Housekeeping, night shift (two positions).** Salary: \$13.70 job rate, probation rate

\$20 an hour lower than job rate. Removal date: Feb. 1.

**Computer User Services Assistant, OVC Computer Group.** Salary range: \$14.44 minimum, \$18.05 job rate, \$21.66 maximum.

It is the University's policy to give prior consideration to on-campus applicants. To determine the availability of University employment opportunities, visit Client Services on Level 5 of the University Centre or call 836-4900.

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Communications card for computer, fax and voice mail capabilities, John, 836-1231.

Swift Instruments Collegiate microscope, four objectives, including oil immersion, 1-519-833-7362.

Girl's ice skates, new, size 4; girl's roller skates, used, size 5; girl's five-speed bicycle, pink, six to eight-year-old; infant seat for three to five-year-old, new; Ultrasonic humidifier, Yves, Ext. 3942.

Two tickets for Michael Burgess concert at War Memorial Hall, Feb. 11, 8 p.m., Ext. 3561 or 821-5412 evenings.

### FOR RENT

Bachelor apartment, quiet, non-smoker, \$400 a month includes heat, hydro, cable, need car, 651-2169 evenings.

Four-bedroom 2,800-square-foot home, four baths, sunken living room, walk-out deck, finished basement, central air, double garage, fenced private yard, non-smokers, available July 1995 to August 1996, \$1,500 a month, Juergen, 824-5585 days, 836-3377 evenings.

Two-bedroom apartment, located near Stone Road Mall, ideal for visiting researcher with family, available March 1, Reinhard, Ext. 3696 or 823-9937 or e-mail reents@aps.uoguelph.ca.

Self-contained furnished guest house in Elora, quiet and secluded, private, available daily or weekly, 846-8193.

Three-bedroom house, north end, immediate, \$800 a month plus utilities, 787-0395 evenings.

### FOR RENT

Furnished one-bedroom basement apartment, private entrance, \$540 a month includes heat, hydro and cable, laundry, parking, non-smoker, perfect for single person, 763-6556 or Paul at 836-2050.

### AVAILABLE

Babysitter, six- to 12-month-old preferred, Kortright and Edinburgh area, University graduate, Red Cross safety course, Susan, 821-7484.

### WANTED

DOS 286 computers for teaching, portable or desk models, David, Ext. 2747 or 8217.

One-bedroom apartment in basement or apartment building for two people, private kitchen and bath, no pets, laundry, no lease, 823-9340.

Two-bedroom apartment, south end, easy access to 401, immediate, reasonable, 1-519-747-0644.

Two- or three-bedroom house, preferably south end, required for July 1, Ext. 6690 or 1-519-747-0644 evenings.

Ride to downtown Kitchener, mornings at 7:45 a.m., 822-5735 after 6 p.m.

Fully detached house in Guelph for professional couple to rent, beginning May 1, Dave, 519-474-0496 or e-mail to th160@lawlab.law.uwo.ca.

Classifieds is a free service available to staff, faculty, students and alumni of the University. Items must be submitted in writing by Wednesday at noon to Linda Graham on Level 4 of the University Centre or fax to 824-7952. For more information, call Ext. 6581.



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# CALENDAR

## THURSDAY, FEB. 2

**Information Session - Human Resources** is offering information about RRSPs at noon in UC 442.

**Concert - The Department of Music** kicks off its "Thursdays at Noon" concert series with violist Henry Janzen and pianist Alison MacNeill at 12:10 p.m. in MacKinnon 107.

**Macdonald Stewart Art Centre** - A program of films by and about artist Michael Snow continues with *A to Z* and *Standard Time*, beginning at 7:30 p.m. Admission is free.

## FRIDAY, FEB. 3

**Nutritional Sciences Seminar** - Amira Klip of the Hospital for Sick Children in Toronto discusses "Mechanism of Glucose Transporter Translocation in Response to Insulin" at 11:10 a.m. in Animal Science/Nutrition 141.

**Cultural Studies Colloquium** - Maureen McNeil of Birmingham University offers a cultural studies analysis of fetal alcohol syndrome at 2 p.m. in Macdonald 149.

**Arboretum** - An orientation session for people interested in joining an auxiliary to do volunteer work at the Arboretum begins at 2 p.m. at the Arboretum Centre.

## SATURDAY, FEB. 4

**Symposium - A "State of Our Earth"** all-day symposium begins at 9 a.m. in Peter Clark Hall. Cost is \$3 for U of G students, \$5 for guests. For information, call Lisa at Ext. 77598.

**Concert - The Department of Music and the Macdonald Stewart Art Centre** present cellist Brian Epperson and pianist Leslie Kinton performing works by Beethoven, Barber, Haydn and Schumann at 8 p.m. at the art centre. Tickets are \$10 and \$8.

## SUNDAY, FEB. 5

**Workshop - "Journaling: A Tool for Your Spiritual Journey,"** a free workshop to explore journaling as a method of deepening spirituality, begins at 3 p.m. in UC 533. To register, call Prof. Fred Evers, Ext. 2196, or Rev. Lucy Reid, Ext. 2390.

## MONDAY, FEB. 6

**Cultural Studies Colloquium** - Prof. Donna Palmateer Pennee, English, chairs a round-table discussion of "Cultural Studies: Issues for Pedagogy" at 4:30 p.m. in the University Club.

**Interfaith Council** - Discussion focuses on "Life After Death" from 7 to 9 p.m. in UC 103. For more information, call Janice Canning at 763-3959.

## TUESDAY, FEB. 7

**Our World** - "Co-operatives and Development in the Philippines" is the topic at 12:10 p.m. in UC 442.

**Arboretum** - An orientation session for people interested in joining an auxiliary to do volunteer work at the Arboretum begins at 9:30 a.m. at the Arboretum Centre.

## WEDNESDAY, FEB. 8

**Third Age Learning** - Brian Ferguson examines "The Financial Crisis of Health Care" at 10 a.m.; Murdo MacKinnon discusses "Guelph Spring Festival - The Inside Story" at 1 p.m. Lectures are at the Arboretum Centre.

**Biochemistry Seminar** - Jean-Paul Dini considers "Large-Scale Production of Glycoprotease Enzyme in Serum-Free Media" at 12:10 p.m. in MacNaughton 222.

**Information Session - Human Resources** is offering information about RRSPs at 1 p.m. in UC 442.

## THURSDAY, FEB. 9

**Learning Resource Centre** - A seminar on "Multiple-Choice Exams" begins at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC Level 3.

**Lecture** - The Centre for the Study of Animal Welfare presents Donald Broom of the University of Cambridge discussing "The Effects of Production Efficiency on Animal Welfare" at 2:30 p.m. in OVC 1714.

## FRIDAY, FEB. 10

**Nutritional Sciences Seminar** - Prof. Brian McBride, Animal and Poultry Science, examines "The Role of IGF-1 in Animal Growth" at 11:10 a.m. in Animal Science/Nutrition 141.

**Cultural Studies Colloquium** - Prof. Ric Knowles, Drama, discusses "Post-, 'Grapes,' Nuts and Flakes: *Coach's Corner* as Post-colonial Performance" at 2:30 p.m. in the University Club.

**Economics Seminar** - "No-Fault Insurance As a Rational Response to Rate Regulation" is the topic of Rose Anne Devlin of the University of Ottawa at 3:30 p.m. in MacKinnon 132.

**Learning Resource Centre** - A session on "Writing Literature Reviews" begins at 12:10 p.m. in UC 333. A seminar series on grammar review for international students kicks off at 12:10 p.m. in UC 430. Cost of each session is \$5. Register at the Connection Desk on UC Level 3.

## MONDAY, FEB. 13

**WOMANSHIP** - Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thornbrough 100.

## WORSHIP

**The Open Door Church** (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

**Care of the Soul**, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

**Womanspirit**, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

On the theme "Spiritual Mentors," Simone Weil will be the focus of presenter Tim Corbet Feb. 5 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road. All are welcome.

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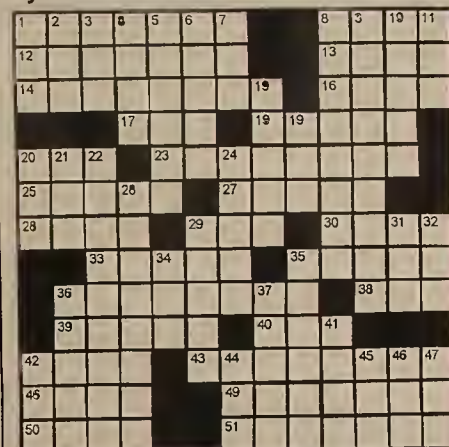
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13. Lilaceous plant
14. Apartment houses
16. Knights' tournament
17. New Guinea city
18. Spanish island
20. Vivacity
23. Kashmir capital
25. Anguish
27. Clean by rubbing
28. Olfactory organ
29. Ending that makes coy a wolf
30. Eliel's son
33. Textile weave
35. Exhibiting activity
36. Turns out well
38. Close to something sought
39. Wahine's greeting
40. Goddess of plenty
42. Utter verbal abuse
43. Part of NHL
48. Major ending
49. Rearrange
50. Looker
51. Cared for medically
24. Cordage fiber
26. Johnny-come-lately
29. New York city
31. de Janeiro
32. Supper scrap
34. dien
35. Have ambitions
36. Well flavored
37. Adorer
41. Intoxicating drink
42. Witness
44. Quick in learning
45. One-seeded fruit
46. Greek goddess of mischief
47. Went first

### DOWN

1. Flock of whales
2. French coin
3. Corded fabric
4. Wrestling bout
5. Fidgety
6. Kitchen appliance
7. Nigerian city
8. Military uniform
9. British queen
10. Helical
11. Coterie
15. Before now
19. Legal profession
20. Goat deity
21. Conscious subject
22. Take for

For crossword solution, see page 2.



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## Education forum seeks nominations

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The Bell Canada Forum Award goes to the outstanding individual researcher or team doing co-operative research of major significance. The Xerox Canada Forum Award honors achievement in facilitating corporate/university research collaboration.

Nominees may be individuals or groups. Only work performed in Canada will be evaluated. Selection criteria include evidence of exemplary initiative and leadership, vision and creativity, effective working relationships, tangible benefits resulting from the research collaboration and involvement of students.

Nomination deadline is March 1. Entry forms can be obtained by writing to the forum office at 1155 René-Levesque Blvd. W., Suite 2501, Montreal H3B 2K4. Requests may be made by fax to 514-876-1498.



Prof. Ajay Heble

Photo by Margaret Boyd, University Communications

## BOOKS

### Looking at Alice Munro's meanings in absence

by Margaret Boyd  
University Communications

*The Tumble of Reason: Alice Munro's Discourse of Absence*, a new book by Prof. Ajay Heble, English, looks at seldom-studied elements of Munro's fiction.

Much of the critical writing on Munro has looked at her "realism," but Heble's book examines the ways in which the assumptions and the ideology of realism are "subverted" in her work.

"There is a tendency to look at her work as an accurate depiction of small-town life in southern Ontario," Heble says. "She is realistic, but she is constantly challenging our assumptions about language and its relation to meaning, knowledge and systems of power."

By "discourse of absence," Heble refers to the aspects of Munro's fiction that deal with what is left out — unsent (unfished) letters, things people mean

to say, do or tell. The reader's understanding is based not only on what happens in the fiction, but also on what "might" have happened.

"She is an incredibly difficult writer," Heble says. "You can't just sit down and read for plot; there is so much going on. This accounts for the lasting power of her stories — you can go back to her work again and again."

Unlike more explicitly experimental writers such as Michael Ondaatje and Audrey Thomas, Munro achieves a different kind of sophistication and subtlety, Heble says.

The book, published by University of Toronto Press, contains chapters on each of Munro's books, except her most recent, *Open Secrets*. The book grew out of a PhD dissertation on Munro.

*The Tumble of Reason* is available at the campus bookstore and most major bookstores.

## PEOPLE

A recent PhD graduate of the Department of Chemistry and Biochemistry has been named a runner-up in the Natural Sciences and Engineering Council's (NSERC) fourth Doctoral Prize Competition. Robin Hicks, now doing postdoctoral work on an NSERC fellowship at the University of California, Santa Barbara, is the first Guelph student to win in the competition, which recognizes the best PhD theses in engineering and science in Canada. Hicks won for his work on "Preparation and Solid-State Investigations of Dithia- and Diselenadiazolyl Radicals." His adviser was Prof. Richard Oakley.

The American Veterinary History Society has awarded a top prize in its 1994 student essay contest to Ilene Shapiro, an unclassified student who is currently attending Seneca College. She won for her essay "The Contributions of C.D. McGilvray to Veterinary Medicine in Canada," which she wrote for the course "History of Veterinary Medicine."

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## FIRST GLANCE

### SPC report due by end of month

The interim report of the Strategic-Planning Commission (SPC) is expected to be completed by the end of February. Plans are to print the report in full in *At Guelph*.

SPC chair Prof. Bev Kay says the commission is unable to meet its mid-February deadline because it is still synthesizing material from the committee reports, as well as comments and suggestions that have been received.

Kay says the SPC still welcomes comments on the final report of the Academic-Planning Committee released last month. These should be directed to him through e-mail at [bkay@lrs.uoguelph.ca](mailto:bkay@lrs.uoguelph.ca), fax at 824-5730 or telephone at Ext. 2447.

A one-month consultation period will follow the release of the final report. Watch for details in an upcoming issue of *At Guelph*.

### Forum cancelled

A round-table discussion on Human Resources Minister Lloyd Axworthy's social-security reforms slated for Feb. 8 has been cancelled due to recent changes in federal plans regarding the review. For more information, call Barbara Merritt at Ext. 6323.

### Inside:

- Environmental textbook to fill information gap . . . 3
- How do they bear it? . . . 4
- Highlights of winter convocation . . . . . 5
- Get the FACS on Spirit Week . . . . . 8

### Thought for the week

*Nothing is impossible for the person who doesn't have to do it.*

Weller's Law

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### Will you be my Valentine?

On the theory that every bunny needs some bunny sometime, these two put their heads together at the Animal-Care Facility to get hopping on their plans for Valentine's Day. Obviously, Feb. 14 is not a day to be splitting hares.

Photo by Trina Koster

## Students to vote on maintaining support services

by Kerith Waddington  
University Communications

**H**ow will student support services be funded in the future?

That's a question undergraduate and graduate students will be asking this month as they decide whether or not to preserve such services by paying an additional \$28 per semester.

A referendum on the issue of incorporating a student support services fee as of May 1995 will be held during the Central Student Association's (CSA) general elections Feb. 20 to 23. Without a "yes" vote, programs such as financial counselling, the peer helper program, learning resource services, support for student groups, career and personal counselling, and safety support services will be significantly reduced.

Lesley Isaacs, spokesperson for the CSA and member of the faculty/staff/student advisory com-

mittee that worked together on the issue, believes it's important that these services be maintained.

"Scaling back support services will have a negative effect on students in the long run," she says. "They form an important part of the university experience, which goes far beyond the academic sphere."

Budget cuts in the wake of the social contract and the Ministry of Education and Training's 1994 freeze on non-tuition fees unless student approval is received are restricting the funding source for student support services at universities nationwide. Guelph is unique among Ontario institutions in that instead of incorporat-

ing a unilateral increase in fees before the freeze, it established a protocol for determining student approval — holding a referendum — and is therefore able to ask its students to decide whether or not they are prepared to pay a fee. (Part-time students would be as-

See *SUPPORT* on page 2

## Tree management under discussion

U of G officials were to meet last night with members of the environmental advisory committee of the Region of Waterloo to discuss issues surrounding the University's plans to selectively thin wooded areas on the Cruikston Park property in Cambridge.

Nancy Sullivan, vice-president, finance and administration, confirmed on Friday that the University has received a number of calls from concerned local residents and environmental and heritage groups who say there is a need to preserve an area that is considered to be representative of an old-growth forest ecosystem.

The tree-management program received news and

editorial coverage in the local and regional press last week.

Sullivan said U of G respects the concerns of those people and groups who view the property as an environmentally sensitive area and who believe that a number of trees should be left because of their importance for natural heritage.

No trees were to be removed before the meeting with the Region of Waterloo representatives and others, she said.

John Armstrong, director of the Real Estate Division, said the program aims to remove dangerous and diseased trees. □



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## Farcus

by David Waddington  
Gordon Goughman

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## Physics student receives Hammill-Blount award

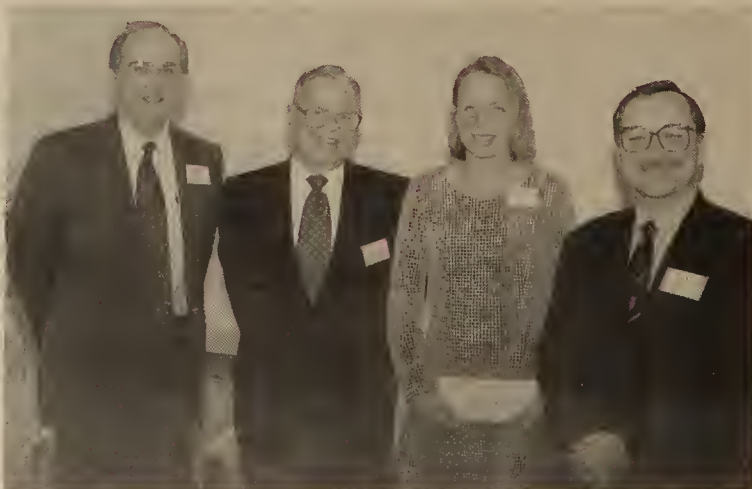
Second-semester physics major Stephanie Swayne of Kitchener has received the first Kenneth O. Hammill-Blount Canada Scholarship.

Established by Blount Canada Ltd. and the Blount Foundation in recognition of OAC alumnus Ken Hammill, the scholarship provides full tuition to a full-time student for up to eight semesters.

Hammill, who is the retired general manager of Blount Canada Ltd., graduated from OAC in 1951 and has maintained an active involvement with the University.

He helped co-ordinate the regional corporate campaign of Guelph's capital campaign in the late 1980s and developed a close alliance with the Office of Research through involvement with the National Research Council.

He also made himself available to graduate students and encouraged their initiatives. □



At a recent ceremony to award the first Kenneth O. Hammill-Blount Canada Scholarship are, from left, Blount general manager Nick Galovich, Ken Hammill,

award recipient Stephanie Swayne and president Mordechai Rozanski.

Photo by Kerith Waddington, University Communications

Support services important part  
of personal, academic development

Continued from page 1

sessed on a per-course basis).

Brian Sullivan, associate vice-president for student affairs, believes the fact that the University continues to cover 50 per cent of the cost of maintaining these programs in addition to administrative and space costs reflects the co-operative relationship fostered across campus.

"Students and administration recognize that the range of services offered are a major — not auxiliary — part of university life," he says.

"The referendum will honor the partnership process that is a dis-

tinctive mark of this institution."

Academic vice-president Jack MacDonald echoes this sentiment.

"These services are an important component of the approach that Guelph takes in both the personal and academic development of students," he says.

A "yes" vote will result in the establishment of a committee — with a majority of student members — to monitor fee allocation. Graduate student David Sellen reassures students that through this committee, they will have a say in how funds are spent.

"With this fee, students gain

both assurance that the services will continue in addition to more accountability in how funds are spent," he says. "If the referendum question passes, the University is committed to providing services that meet students' needs."

To this end, five per cent of the total fee collected is expected to be allocated towards the enhancement of student life, either through existing services or through the creation of new ones. This will enable support services to move with the needs of a changing campus community, Sullivan says. □

## Obituaries

Everett Biggs, a former Ontario deputy minister of agriculture who was instrumental in creating U of G, died in Brampton Feb. 3. A 1948 OAC graduate and former president of the OAC Alumni Association, he was inducted into the Canadian Agricultural Hall of Fame in 1993. Donations in his name can be made to the OAC Alumni Foundation.

Bob Douglas, who retired in 1988 as a supervisor in Housekeeping, died in Guelph in November. He was 71. A 20-year employee of U of G, he is survived by his wife, Marie, and four children, Michelle Cummings, Linda Black, Paul and Brad. □

## LETTERS

Honorary degree recipient  
has far-ranging impact

The statement in the Jan. 16 *At Guelph* on why Edward Said was receiving an honorary doctorate from U of G focused on just one aspect of his work — Palestinian studies. But he was being honored for two other aspects of his work.

He has made important contributions to comparative literature, particularly critical analyses of texts, and has had a profound impact on the thinking and work of many historians and social scientists.

His books *Orientalism* and *Culture and Imperialism*, to cite but two, explore the cultural imagina-

tion of western authors and artists in their creation of "others" as a prelude and justification for imperialism in the last century and more recent examples of control and domination. Said has also served as a critic of governments and the media.

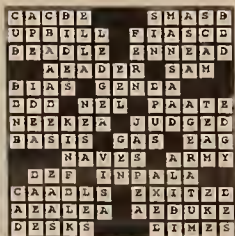
In sum, the University has acknowledged him for his remarkable array of work, whose impact has ranged far more widely across disciplines and scholarly traditions than even he may have dared to hope.

Prof. David Knight  
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## Enrolling dependants aimed at improving benefit co-ordination

U of G is implementing a system to help improve the co-ordination of group benefits of University employees with the group benefits of spouses working for other employers.

With benefit co-ordination, employees maintain full coverage, but employers share the cost of coverage for spouses and dependants, says Vic Reimer, manager of Compensation and Benefits in Human Resources. Such co-ordination has long been a feature of U of G's extended health-care and dental group benefits program, but it has not been widely applied, he says.

"It is common for a spouse and children to use the plan that is the most convenient and has the best coverage," says Reimer. "The University has one of the most generous plans, so it is the plan most commonly used."

The insurance industry has a predetermined order to decide which plan pays first. If a spouse is covered by another insurance plan, that plan is the first payer for the spouse's claims. For children's claims, the insurance plan of the parent whose birthday falls earlier in the calendar year is the first payer.

In either case, if the spouse's plan doesn't provide as much coverage as U of G's does, the University plan makes up the difference.

To help ensure that Guelph's plan doesn't pay for claims that should rightfully be paid by other

employers, the University is asking all employees and retirees with family health or dental coverage to participate in an enrolment program, says Reimer. This involves completing a form to identify eligible dependants. These forms will be distributed to employees and retirees next week.

Once collected, the information will be submitted to the plan provider, Mutual Life. Mutual will maintain the data on a computer system, which will allow it to determine if the University plan is the first payer, Reimer says. "Dependants must be registered on the enrolment form or their claims cannot be processed."

To accommodate this co-ordination of benefits, new benefits cards will be issued to employees and retirees in early April.

Enrolment of dependants was one of the recommendations made last year by the Presidential Task Force on Group Benefits and approved by president Mordechai Rozanski.

"Along with many other initiatives, it's an attempt to stabilize increasing benefit costs," says Reimer. "It's projected that this may eventually cut the acceleration of benefit costs by \$200,000 a year. Although this doesn't bring new money into the University, it does help contain the escalation of benefit costs year after year. This will ultimately be advantageous for employees, retirees and the University." □



**A princess reigns**

Princess Butterscotch, a 48-centimetre-tall American miniature horse, greets owner Joe Colasanti of Leamington at OVC's Veterinary Teaching Hospital, where she is undergoing treatment for de-

formed hooves and legs. The tiny horse will be undergoing corrective treatments over the next year. Colasanti has launched a media campaign to raise money for her veterinary care.

Photo by Margaret Boyd, University Communications

## Environmental textbook to fill gap

by Leigh Funston  
Office of Research

Unless your last name is Crichton, it's tough for a first-time author to drum up publishers' interest. Then there's environmental engineering professor Isobel Heathcote.

In an enviable courtship that lasted more than six months last year, she found herself wooed by two prestigious U.S. publishing companies, both anxious to release her case-studies book *Envi-*

*ronmental Problem Solving*.

Why all the excitement?

"The book approaches environmental issues from various levels of learning," says Heathcote, director of the Institute for Environmental Policy and Stewardship. "They liked that concept."

She suggested the publishers give detailed guidance in the instructor's manual on possible lesson plans for each of three or four levels of learning. Students at the introductory level could try to define and understand the problems; graduate students could use analytical tools to draw conclusions about the problems.

This innovative approach proved most attractive to McGraw-Hill of New York, the company Heathcote eventually signed on with. The publisher wanted a format that would bring together specialties such as environmental ecology, geology and biology, and give students the opportunity to apply learned concepts to real problems. *Environmental Problem Solving* was the right fit.

Heathcote, who has extensive experience in consulting and policy making, says the creative autonomy she was given by McGraw-Hill allowed her to develop a selection of case studies that incorporate a global perspective.

"There is a tremendous need in universities for non-U.S. materials," she says. "This book will feature about 30 small-scale case studies drawn from all over the

world. Each case will be presented to the students in a consistent format to help them understand and analyse the information."

The case studies Heathcote is using for the project illustrate the wide scope of her research. Examples range from estimating the environmental effects of putting in a new village water supply in the Philippines to controlling noise associated with freeway construction near aboriginal lands in New Zealand.

McGraw-Hill plans to distribute *Environmental Problem Solving* worldwide to meet global demands. Heathcote estimates that there are more than 100,000 environmental science students in undergraduate programs in the States and at least 10,000 in Canada. Other large markets include Australia and the United Kingdom.

"There's a vast number of first-year environmental science textbooks on the market, but little else beyond this level," she says. "Because students branch off into various specializations after their first year of university, the market becomes quite narrow."

*Environmental Problem Solving* is expected to go to press this summer and should be available in the fall. The initial version will be released in normal textbook format, but Heathcote hopes that subsequent editions will include a computer disk for computer-simulated scenario testing, to give students practical experience. □

## Freeman honorary chair of Big Brothers

Dick Freeman, business manager of the Athletics Department, was named this year's honorary chair of the Guelph and Wellington Big Brothers at a Jan. 30 kick-off reception for the organization's 1995 "Bowl for Millions" campaign.

Freeman, who has been involved with Big Brothers for about 10 years, says he's "proud to be part of a small organization with a big heart."

The focus of this year's campaign is how "big" a part of the Big Brothers community the University is. The campaign poster, which was unveiled at the reception at the Whippletree, features Freeman and other members of the University community involved with the organization.

With U of G sports team members slated to participate in Bowlerama Feb. 11, and staff and student fund-raising challenges throughout the week, Freeman believes the University community will continue to be a big part of Big Brothers. For information about the week's events, call Colleen Hicks or Keith Taylor at 824-5154. □



Honorary Big Brothers chair Dick Freeman of the Athletics Department and Tammy Brown, president of Interhall Council, show off this year's poster for the association's "Bowl for Millions" campaign.

Photo by Keith Waddington, University Communications

## Committee named to select chief librarian

A selection committee has been named to choose a new chief librarian to succeed John Black, who retires Aug. 31.

Chaired by academic vice-president Jack MacDonald, the committee consists of College of Arts dean Carole Stewart; Bernard Katz, head of library academic support; Carolyn

Pawley, head of cataloguing and data maintenance; Jim Brett, coordinator of interlibrary loans and document delivery service; Prof. Laura Nagy, Nutritional Sciences; and B.Comm. student Steve Cracknell.

Applications and nominations should be directed to MacDonald by April 15. □



# People estimate body image, objects as bigger than they are

by Margaret Boyd  
University Communications

People tend to estimate body size and various household objects in exaggerated proportions, says Prof. John Hundleby, Psychology.

The accepted concept of body distortion among people with anorexia and bulimia inspired a series of studies on estimation and size. Hundleby wondered if the idea of body-image distortion was confined to those with eating disorders, or if it was common in the general population as well — and if the distortion was also present for non-body objects.

In the studies, almost 900 university students — mainly women between 17 and 23 — were asked to gauge the size of their own bodies, bodies of other people and of models, and common household objects such as a box of facial tissues. The objects and models were shown to the participants, then removed, and the participants were asked to recall their size using a 'calliper' method consisting of moving markers or points of light.

In three studies, the students were asked to estimate from memory the size of common objects

they had not been shown, such as a stop sign.

What the studies found is that estimation of size is not confined to those with eating disorders (a conclusion now becoming more generally accepted) and that it occurs with a wide array of everyday objects, says Hundleby.

"I have concluded that some people see or remember the world as looking through a distorted telescope," he says. This is not universal, however. "Not everything is blown up to the same degree nor by everyone."

Given the extent of exaggeration, he wondered how people manage everyday tasks such as parking a car or moving things accurately to spaces on shelves. He speculates there is an elaborate coping system that enables people to constantly check such estimations without realizing they are doing so.

"Although our view of ourselves is clearly important in its own right, it nevertheless is part of a broader cognitive framework in which we view the world," he says.

Yet to be explored are discrepancies in judgment depending on the object itself. In terms of bodies,

most people estimate heads, waist and hips to be larger than they actually are, but exaggeration of shoulder size is minimized. Head and waist tend to be exaggerated the most.

In a study comparing the sexes, women exaggerated the size of their bodies — based on head, shoulders, waist and hips — more than men. But they also exagger-

ated the size of household objects more than men, a finding that was not anticipated, says Hundleby.

The students in the study tended to exaggerate food items the most. For example, women described a cereal box as being 36 per cent larger than it was; men described it as being 31 per cent larger. The difference between men and women was slight but constant,

with an average percentage difference of six per cent.

Next, Hundleby wants to study people with anorexia to determine if they exaggerate themselves and objects more than the average person. Ideally, this research could lead to an aid for diagnosis. He'd also like to look at how people with high self-esteem see themselves and everyday objects. □

## How do they bear it?

Researchers study hibernation for hints on bear blood chemistry

by Marsha Perry  
Office of Research

A team of U of G researchers doesn't believe in letting sleeping bears lie. They hope that by studying what happens during hibernation, they can increase understanding of protein and fat metabolism in other animals.

Zoology and pathology professor Pat Wright is leading a multidisciplinary team compiling a black bear blood data bank. The two-year project is aimed at understanding the physiological functions of bears during hibernation — specifically, how the animals recycle potentially harmful

nitrogen waste.

"Black bears possess the unique capability of not eating, drinking, urinating or defecating for about five months without accumulating nitrogen waste products like urea," says Wright.

Urea is a potentially toxic substance normally excreted through urine. Understanding how bears process urea without urinating could offer important insights into kidney function, she says. So she and Prof. Jim Ballantyne, Zoology, and Prof. Jim Atkinson, Animal and Poultry Science, are conducting blood tests on black bears at Chateau, Ont., and analysing

the samples in Guelph. The team hopes the chemical makeup of the blood will tell them more about waste-elimination processes.

Early tests have yielded interesting conclusions, says Wright.

"Preliminary results on 50 black bears show that blood urea levels are considerably lower in females sampled in March compared with the summer months of June and July."

Other goals of the research are to:

- understand how blood chemistry is regulated when bears burn fat during hibernation;
- examine how blood chemistry varies from season to season; and

■ note differences in blood chemistry between males and lactating and non-lactating females.

Wright credits the project's sponsor, the Ontario Ministry of Natural Resources (OMNR), with providing an opportunity to increase knowledge in a largely ignored area.

"There is little information on the physiology of bears in general because of the difficulty of working on wild populations," she says. "This research has been possible because of the OMNR black bear program in Northern Ontario. OMNR biologists have been collecting black bear blood samples for several years and were willing to collaborate on this project." □

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## OMAFRA sets another deadline for pest research

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has announced another deadline for its Food Systems 2002 — Pest-Management Research Program.

This program is designed to cut pesticide use while maintaining competitive crop production, sustainable farms and effective pest control at reasonable cost.

The deadline for proposals for short-term projects is Feb. 21 to the Office of Research and Feb. 28 to OMAFRA. Funding for these projects will not exceed \$15,000.

The deadline for long-term projects is March 8 to the Office of Research and March 15 to OMAFRA. These projects will be funded for up to \$50,000 a year for two or three years.

Project descriptions are available in the Office of Research outside Room 224 of the Reynolds Building. For more information, call Barbara Leachman at Ext. 8761. □



# Congratulations to the winter class of '95



Master of arts graduate Tracy Gooden shares the excitement of her accomplishment with her sister Justine Allen.

More than 750 students graduated during four ceremonies Feb. 2 and 3 in War Memorial Hall. Here are some of the highlights.

Photos by Martin Schwalbe and Kerith Waddington



Retired engineering professor Trevor Dickinson was named University professor emeritus.



Honorary degree recipient John Beckwith.



Honorary degree recipient Edward Said.



Honorary degree recipient James MacLaren, left, accepts congratulations from Chancellor Lincoln Alexander.



Honorary degree recipient Eugenie Clark.

## Hard work required

Hard work is necessary to excel in the world — whether scholastically, musically or otherwise.

That's what Canadian composer and honorary degree recipient John Beckwith told graduates of the College of Arts and FACS at morning convocation Feb. 2.

"Work makes you sweat, but ultimately it's satisfying," he said.

"Actively stretching one's intellect to accumulate not just information but knowledge and skill results in an expertise future generations can count on. As well, educational quality is maintained as well-considered opinions and dreams are formulated alongside the ingestion of facts."

Beckwith said that society as a whole stands to win from sharing the responsibilities and the benefits of maintaining excellence in both scholastic and musical pursuits.

After congratulating the graduates of doctoral and master's programs, he drew special attention to those completing undergraduate degrees. Quoting Northrop Frye, he identified this group as "the engine room of society," whose hard work and intellectual expansion are of ultimate benefit to society.

## Search for the truth

If faced with an abyss, build a bridge and seek the truth with questions.

That's what Jerusalem-born author and honorary degree recipient Edward Said told graduates of the College of Social Science at afternoon convocation Feb. 2. He urged them to maintain the critical nature fostered at university and not passively accept things as they are presented. "Self-education and skepticism — not unquestioning acceptance of authority and others — is how one comes to see things differently. And thinking differently is the first step to building the structure of a bridge across an abyss."

Defiance is key in the search for truth, he said, but there are risks involved. "Unpopularity, isolation or even revilement can occur outside the status quo. But risk is needed if bridges are going to be built and one is to survive both intellectually and morally."

Said suggested the graduates adopt the motto of the character Stephen Dedalus in James Joyce's *Portrait of the Artist as a Young Man* — "Non serviam" — I will not serve (that in which I no longer believe). □

## Preserve resources

Graduates in the sciences, engineering and finance must apply their skills to land and water management for the benefit of present and future generations.

This was the message engineering consultant and honorary degree recipient James MacLaren had for graduates of OAC, OVC and CPES at morning convocation Feb. 3.

He urged graduates to use their expertise and abilities to address such issues as pollution, threats to public health and potential loss of the ecosystem on which agriculture — the original and still critical strength of the Ontario economy — depends.

"Nowhere is conservation more necessary than in improving the management of our land and water resources," he said.

MacLaren noted, however, that awareness and initiative are necessary for real change to occur. "You have the training to understand the problem and the ability to solve it," he told the graduands. "Those of us who are informed must use every opportunity to make others aware." □

## Follow your dreams

If you really love something, pursue it to the best of your ability, says world-renowned "shark lady" Eugenie Clark.

Speaking at the Friday afternoon ceremony for graduates of CBS, Clark said she feels fortunate that she's been able to combine two of her greatest loves — fish and scuba diving — into her career in ichthyology.

Faced early in life with stereotypes that deemed it best she take up secretarial work, Clark clung to her dreams and pursued a career that has included being chief scientist on 71 submersible dives, seeing a rare hooded octopus at 12,000 feet below sea level and riding a 52-foot great whale shark.

Taking her studies seriously and making her work her play have been key to her success, said Clark, who was awarded an honorary doctorate of science during the ceremony. She urged graduates to follow a similar course.

"Being a scholar gives one the basic tools with which to follow one's dreams," she said. "Graduating is a beginning, not an end." □



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## NOTICES

### Oh, deer

The OVC '98 class is selling "deer drops" for a "buck" for Valentine's Day. The drops are actually chocolate-covered almonds and they'll be on sale in the OVC cafeteria from noon to 1 p.m. until Feb. 13. Purchasers get to write a message to their valentine and have it delivered along with the candy. Proceeds go to the class adopt-a-wolf project.

### On the radio

The OVC Wild Bird Clinic hits the airwaves with a radio show Feb. 16 at 6 p.m. on CFRU (93.3 FM).

### At the opera

The U of G Alumni Association has block booked tickets for Puccini's opera *La Bohème* April 1 at 8 p.m. at Hamilton Place. Tickets are \$32. For more information or tickets, call Ext. 2102.

### Food technology talks

The Guelph Food Technology Centre (GFTC) will hold a seminar on "Research and Development Funding in the Food Industry"

Feb. 23 from 8:15 a.m. to noon at the Ramada Airport West in Toronto. Cost is \$80.25 for non-GFTC members, \$53.50 for members and \$26.75 for students and job-hunters. Register by Feb. 13 at 767-5036.

### Art exhibition

A show of prints, paintings and drawings by Rosalinde Baumgartner is on display at the University Club on Level 5 of the University Centre until Feb. 28. A reception to meet the artist will be held Feb. 12 from 2:30 to 4 p.m.

### Gardening series

A five-session course on gardens and their history and the potential for your garden begins Feb. 20 at 7:30 p.m. at the J.C. Taylor Nature Centre. Cost is \$50. Space is limited. Register by Feb. 13 at Ext. 2113.

### Black History Month

The British Methodist Episcopal Church is celebrating Black History Month with an art and history display and a film on the civil rights movement Feb. 12. On Feb.

19, there will be a historical dramatization and a talk by Rosemary Sadlier, president of the Black Historical Society of Ontario. The programs run from 3 to 5 p.m. at 83 Essex St. Everyone is welcome.

### Retirement party

A retirement party will be held Feb. 23 at 7 p.m. at the Arboretum in honor of Margaret Snowden, who is retiring from the dean's office in the College of Biological Science. Cost is \$15. RSVP by Feb. 13 to Toni Pellizzari at Ext. 3788.

### International award

Nominations are being accepted until Feb. 17 for the Lewis

Perinbam Award in International Development. The award recognizes a Canadian for excellence and imaginative leadership in social or economic area pertaining to development in the Third World. For more information, call Kate Dillon of CESO at 1-800-268-9052 or visit the InfoCentre in International Education Services on Level 4 of the University Centre.

### Netherlandic studies

The Waterloo chapter of the Canadian Association for the Advancement of Netherlandic Studies will meet Feb. 10 at the University of Waterloo. The evening will focus on Dutch author Annie Smidt and will include a talk, a videotaped interview with Smidt and a reading

of her poetry. The meeting begins at 8 p.m. in Room 2035 of Waterloo's Math-Computer Building. For more information, call Prof. Frans Schryer, Ext. 2505.

### Heritage Week

Local organizations with an interest in heritage matters will be recognizing Heritage Week Feb. 17 and 18 with displays at the downtown Eaton Centre. They will provide information on how to trace your family's roots, what properties have special heritage designations, historical walking tours and resources available through Guelph's cemeteries, museums and other organizations. □

## CLASSIFIEDS

### FOR RENT

Bachelor apartment, quiet, non-smoker, \$400 a month includes heat, hydro, cable, need car, 651-2169 evenings.

Three-bedroom lakelront cottage, access to snowmobile trails, five minutes from Parry Sound, \$450 a week or \$1,500 a month, 905-822-9015.

Self-contained furnished guest house in Elora, quaint and secluded, private, available daily or weekly, 846-8193.

### FOR SALE

1985 Nissan Maxima, black, four-door, standard, air conditioning, cruise, sunroof, alarm, AM/FM stereo cassette, certified, 824-5112.

Sklar hide-a-bed chesterfield and chair, perfect condition; single bedroom suite, mattress/boxspring/frame, armchair, nightstand, dresser with mirror, or bed sold separately, Ext. 2070 or 823-1521.

### FOR SALE

Various typing elements for IBM Selectric typewriter, Sandra, Ext. 3886.

Two-bedroom two-storey timeshare chalet on lake in Deerhurst, Huntsville, one week in May, can exchange for any week at 2,400 resorts worldwide, reasonable; natural pine baby crib and mattress, Ext. 8739 or 846-8151.

Two tickets for Michael Burgess concert at War Memorial Hall, Feb. 11, 8 p.m., Ext. 3561 or 821-5412 evenings.

Four-bedroom two-storey 2,600-square-foot home in Waterloo, backing on to green belt, eat-in kitchen, finished basement, main-floor laundry, family room, large cedar deck, Ext. 2250.

### WANTED

Acoustic guitar, reasonably inexpensive, Ext. 77546.

Laptop computer, older model, 836-3103.

The Connection Desk is looking for a typewriter to borrow for the semester or to receive as a donation, Peter, Ext. 6200.

### HOUSE FOR SALE

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### WANTED

A ride to Halifax between March 1 and April 30, will share expenses, John, 837-0807.

DOS 286 computers for teaching, portable or desk models, David, Ext. 2747 or 8217.

One-bedroom apartment in basement or apartment building for two people, private kitchen and bath, no pets, laundry, no lease, 823-9340.

Exercise bicycle, sturdy, with console for distance, calories, etc., reasonably priced, Ext. 3839.

### AVAILABLE

Free to good home, one-year-old female German shepherd/collie cross, country preferred, good with children, Carmen or Steve, 766-9854.

English graduate with a bachelor of education degree available to tutor, edit or advise, John, 837-0807.

Day care by mother of two, full- or part-time in my home, Kortright/Edinburgh area, nutritious meals, non-smoking, 767-1738.

### FOUND

Set of house and car keys found Jan. 9 in basement of Johnston Hall, describe to claim, Ext. 3913.

Classifieds is a free service available to staff, faculty, students and alumni of the University. Items must be submitted in writing by Wednesday at noon to Linda Graham on Level 4 of the University Centre or fax to 824-7962. For more information, call Ext. 6581.

## JOBS

As of *At Guelph* deadline Feb. 3, the following opportunities were available to on-campus employees only:

**Telecommunication Systems**  
Co-ordinator, Computing and Communications Services. Salary range: \$15.70 minimum, \$19.63 job rate, \$23.55 maximum. Removal date: Feb. 8/95.

**Pathology Records Secretary,**  
Veterinary Teaching Hospital,

temporary leave of absence May 15/95 to May 15/97. Salary range: \$11.90 minimum, \$14.88 job rate, \$17.86 maximum. Removal date: Feb. 10.

It is the University's policy to give prior consideration to on-campus applicants. To determine the availability of University employment opportunities, visit Client Services on Level 5 of the University Centre or call 836-4900. □



### "Don't Misunderstand Me"

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# CALENDAR

## THURSDAY, FEB. 9

**Learning Resource Centre - A seminar on "Multiple-Choice Exams"** begins at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC Level 3.

**Concert - Musica Viva & Friends** perform on flute, oboe and piano at 12:10 p.m. in MacKinnon 107.

**Lecture - The Centre for the Study of Animal Welfare** presents Donald Broom of the University of Cambridge discussing "The Effects of Production Efficiency on Animal Welfare" at 2:30 p.m. in OVC 1714.

## FRIDAY, FEB. 10

**Molecular Biology and Genetics Seminar - Anja Geisterfer-Lowrance** of Harvard Medical School considers "Developing an Animal Model for the Human Disease Familial Hypertrophic Cardiomyopathy" at 11 a.m. in Axelrod 208.

**Nutritional Sciences Seminar - Prof. Brian McBride, Animal and Poultry Science**, explains "Gastrointestinal Growth, Function and Energetics" at 11:10 a.m. in Animal Science/Nutrition 141.

**Cultural Studies Colloquium - Prof. Ric Knowles, Drama**, discusses "Post-, 'Grapes,' Nuts and Flakes: *Coach's Corner* as Post-colonial Performance" at 2:30 p.m. in the University Club.

**Economics Seminar - "No-Fault Insurance as a Rational Response**

to Rate Regulation" is the topic of Rose Anne Devlin of the University of Ottawa at 3:30 p.m. in MacKinnon 132.

## MONDAY, FEB. 13

**Learning Resource Centre - A session on "Writing Literature Reviews"** begins at 12:10 p.m. in UC 333. A seminar series on grammar review for international students kicks off at 12:10 p.m. in UC 430. Cost of each session is \$5. Register at the Connection Desk on UC Level 3.

## TUESDAY, FEB. 14

**Our World - "Changing Images of Black Women: Views on Different Cultures"** is the topic at 12:10 p.m. in UC 103.

## WEDNESDAY, FEB. 15

**International Development Series - "China in the Throes of Modernization: 1982 and 1994"** is the subject of president Mordechai Rozanski at 12:10 p.m. in MacKinnon 316.

**Plant Biology Seminar - Paul Widden** of Concordia University discusses "V-A Mycorrhizal Fungi in the Wild" at 3:30 p.m. in Axelrod 117.

**Economics Seminar - Dajiang Guo** of the University of Toronto considers "A Test of Efficiency for the Currency Option Market Using Stochastic Volatility Forecasts" at 3:30 p.m. in MacKinnon 132.

**Student Leadership Series - "How to Make Yourself Marketable"** is the topic at 5:10 p.m. in the Eccles Centre.

## THURSDAY, FEB. 16

**Macdonald Stewart Art Centre - A program of films by and about artist Michael Snow** continues at 7:30 p.m. with *Dripping Water* and *Side Seat Paintings Slides Sound Film*. Admission is free.

**Concert - Pianist Valerie Candella** performs at 12:10 p.m. in MacKinnon 107.

## FRIDAY, FEB. 17

**Nutritional Sciences Seminar - "Breast Cancer Induction in the Rat: Molecular Basis and Dietary Effects"** is the focus of Michael Archer of the University of Toronto at 11:10 a.m. in Animal Science/Nutrition 141.

**Economics Seminar - Xiaohong Chen** of the University of Chicago considers "Asymptotic Properties of Nonparametric Recursive GMM-Estimators for Dependent Data and Some Applications" at 3:30 p.m. in MacKinnon 310.

## MONDAY, FEB. 20

**Learning Resource Centre - A seminar for international students on "Making Subjects and Verbs Agree"** begins at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC Level 3.

## WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thornbrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

"Food as a Spiritual and Material Good" is the topic of Prof. Tony Winslow, Sociology and Anthropology, Feb. 12 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road. All are welcome. □

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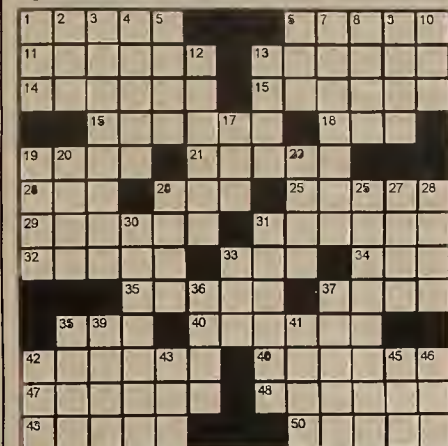
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### ACROSS

1. Secret store
6. Tennis stroke
11. Toward the summit
13. Complete failure
14. Polish official
15. Group of nine
16. School book
18. O.T. book
19. Diagonal line
21. Ligurian Sea city
23. Unmatched
24. Honey
25. Be garrulous
29. More submissive
31. Passed sentence
32. Foundation
33. Liquid fuel
34. CGS unit
35. Main parts of churches
37. Military force
38. C-G connection
40. African antelope
42. Burnett and Channing
44. Left the stage
47. Heath family plant
48. Give a tongue-lashing
49. Office furniture

### DOWN

1. Be by bear
2. Gibbon
3. Pantomime game
4. Covers up
5. Vocalist Fitzgerald
6. Iniquity
7. Two-sloped roof
8. On the briny
9. Fraudulent business scheme
10. Brick trough
12. Bookkeeper's book
13. Flowerless plant
17. Snake-like fish
19. Fail miserably
20. Conception
22. Musical composition
24. Flat-topped elevation
26. Garden plant
27. Semester
28. Nervous
30. Relatives
31. Alberta park
33. Polished stone
36. Passport endorsement
37. Defendant's defense
38. Stupefy
39. Time periods
41. Used a hatchet
42. Ungentlemanly man
43. Band leader Brown
45. \_\_\_ out (supplement)
46. \_\_\_ Moines

For crossword solution, see page 2.

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FACS students gather outside the college to promote Spirit Week, a series of fun-filled fund-raising events Feb. 13 to 17.  
Photo by Kerith Waddington, University Communications

## Get the "FACS" on Spirit Week

**D**are to get involved. That's the challenge the FACS Student Administrative Council (FACS SAC) is posing to the campus community as it gears up for a revamped Spirit Week Feb. 13 to 17.

The week is aimed at raising awareness and creating a sense of community across the college and the University, says FACS SAC vice-president Frank Graham. It will involve all areas of the college in a variety of events that everyone on campus is invited to participate in. Proceeds from the events will go towards the Heart and Stroke Foundation and to buy new tricycles for the FACS Lab Schools.

Graham says Spirit Week has another important mandate — "to have fun! With mid-terms approaching and the winter blahs hanging around, people need a chance to relax. Our events are guaranteed to help."

The administrative councils of all colleges will receive the calendar of events to be posted throughout the college and in the FACS lounge when times, dates and guest speakers have been finalized.

The week's events include a neighborhood blitz for the Heart and Stroke Foundation, "morning greeting" from 8 to 10:30 a.m. in the front foyer of the FACS Building, a tug-of-war, FACS Indy tri-cycle races, bingo and a lunch-and-learn series involving college

alumni speakers.

HAFSA student Andrea Pavia, president of FACS SAC, expects Spirit Week to be bigger and better this year. She credits that to active promotion, more events, heightened visibility and outstanding support from college staff and faculty.

Other FACS SAC members — Susan Elliot, Deborah Wonnacott, Ian Simmie, Vanessa Armstrong and Tracy Langdon — are working hard behind the scenes, she says.

For more information about Spirit Week or to get involved in FACS SAC, call Ext. 8107. □



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## Picture this!

College Royal's newest event — a photography contest — is open to all members of the University community who derive less than half their income from photography.

The contest has two divisions — novice and experienced (for those who have entered previous competitions). There are seven categories in each division — University life, College Royal, sports, city of Guelph, children, photographer's choice and farm scenes. Each entrant is allowed one submission per category.

Pictures must be mounted on heavy cardboard or bristol

board, ready to hang. Minimum size is 4" x 6" and maximum is 8" x 10" excluding mat, 11" x 17" including mat.

Entries must be submitted by March 15 to the College Royal Office in Room 242 of the University Centre. Photos will be displayed during the College Royal open house March 18 and 19 in the main-level UC lounge. Pickup of entries must be arranged for the week following College Royal.

For more information, call Heather Kennedy at 823-0938 or the College Royal office at Ext. 8366. □

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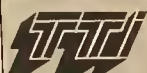
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## FIRST GLANCE

### Check us out!

The top stories in each issue of *At Guelph*, formerly available in GRIFF under the category "This Week at Guelph," are now available under "Campus News." Here you'll also find a listing of coming events on campus and general information about *At Guelph*, including its editorial policy and advertising rates.

### TSS focuses on academic advising

Teaching Support Services is offering a session on "Academic Advising: A Shared Responsibility" Feb. 16 with Wes Habley, director of assessment program services with the American College Testing Program. He will discuss "Advising as Teaching: Roles for Faculty in Academic Advising" at noon in Room 424 of the University Centre and "Organizational Structures for Academic Advising" at 2:30 p.m. in UC 442.

### Inside:

Only hazardous, diseased trees to be removed at Cruickston . . . . . 3

Air-quality team targets UC, library . . . . . 3

Economic developers bring their learning needs to U of G . . . . . 4

Computers provide ANSWER for better cancer diagnosis . . . . . 5

Calendar . . . . . 7

College Royal team gears up for 71st annual open house . . . . . 8

### Thought for the week

*Bargain: something you can't use at a price you can't resist.*

Franklin P. Jones



### Grape expectations

Graduate student Brenda Rojas has high hopes that transgenic grapes will be able to tolerate Ontario's winter chill. See story on page 5.

Photo by Trina Koster, Office of Research

## CIDA supports environmental planning in southern Africa

by Andrea Mudry Fawcett  
University Communications

U of G celebrated International Development Week last Friday with the announcement of a three-year project in environmental planning in southern Africa.

At a press conference, Guelph-Wellington MP Brenda Chamberlain congratulated Guelph researchers and faculty for again showing leadership on the international

scene by initiating this project.

Supported by a \$4.5-million grant from the Canadian International Development Agency (CIDA), the project will provide training and internships and support research aimed at supplying environmental-management skills to governmental, non-governmental and private-sector organizations in 12 southern African countries.

See AFRICA on page 3

## Guelph Food Technology Centre scores with industry

by Anne LeBold and Owen Roberts  
Office of Research

The Guelph Food Technology Centre's promise of one-stop shopping for the food industry is striking a chord with companies.

GFTC president and chief executive officer Don Murray says the centre already has nearly 50 projects completed, in progress or in development with meat, dairy, wine, vegetable, bakery and prepared-food companies . . . and it's barely a month old.

"The centre has a mandate to provide confidential, credible, on-time and on-budget services to the food industry," says Murray. "We're getting the opportunity to show we can do it."

The GFTC gives food companies an avenue to develop new products, improve product quality and enhance productivity through research, technology and training. Its services are particularly attractive to small and medium-sized companies that don't have their own research, product-development or training facilities. Large companies can also extend their research and development capacity with access to equipment and expertise they may not have in-house.

In December, the GFTC, U of G and the Ontario Ministry of Agriculture, Food and Rural Affairs completed the paperwork needed to set the centre in full swing. The groundwork had been well established. In November 1993, a coalition of government, industry, University and labor leaders gathered on campus to announce a \$33-million commitment to the GFTC. That set the wheels in motion for a food research initiative unparalleled in Canada.

"The partnership has been invaluable in the development of the GFTC," says research vice-president Larry Milligan. "By working together, the centre went from a vision to a reality."

Prof. Marc Le Maguer, chair of the Department of Food Science and leader of the foods program in the University/OMAFRA agreement, says the GFTC "will enhance the overall foods research dimension at U of G. It provides a technology-transfer link to industry and a feedback vehicle for identifying new research areas important to industry. This feedback will help us set our short-, medium- and long-term research objectives and integrate them into the overall research enterprise."

In the past 15 months, the GFTC has:

- occupied Phase 1 of the GFTC pilot plant, a 14,000-square-foot facility next to the Food Science Building;

- established a clientele and conducted — in some cases completed — almost 50 projects; and

- launched a series of technical seminars of practical use to the food industry.

"We now have an industry-led research and development organization located at the centre of

See STUDENTS on page 2



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by David Wainglass  
Gordon Coulman

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## Students to benefit from involvement with GFTC

Continued from page 1

campus, focusing the linkage of Ontario's food-processing industry with the University of Guelph," says president Mordechai Rozanski, a member of the GFTC board. "This is a remarkable step. It will give enormous impetus for innovation in Ontario's food-processing industry."

The contract work in the GFTC is proprietary and paid for by clients. The centre's services are as far-reaching as project management, product formulation, prototype design, market testing, package development and labelling, pilot-plant processing and training.

Workshops on the horizon include "Research and Development Funding in the Food Industry" Feb. 23 in Toronto, "HTST Pasteurization" Feb. 21 to 23 in New Brunswick and "Vision Technology Applications for the Food Industry" March 30 at U of G. Last month in Guelph, a GFTC-led seminar on nutraceuticals drew 80 participants.

Students have the opportunity to benefit from the GFTC, too. OAC dean and Guelph Food Council



Signing the paperwork to get the Guelph Food Technology Centre in full swing, are, from left, GFTC president and CEO Don Murray; Charlie Scott, past chair of GFTC's board of directors; and president Mordechai Rozanski.

Photo by ICON Photography

chair Rob McLaughlin says classes will be able to visit sections of the pilot plant and use GFTC equipment.

"Undergraduates will have a first-hand chance to experience development in the food-processing industry," says McLaughlin. Students from disciplines as wide-ranging as food science, consumer studies, rural extension and engineering will realize enhanced opportunities by being involved with the centre, he says.

McLaughlin calls it a win-win situation. Co-op programs at the

GFTC will give students a sample of real-life work in the food industry, complete with confidentiality agreements, market requirements and experience with leading-edge equipment, he says. Links made through the GFTC between students and industry may be a potential funding source for student research programs.

The GFTC can capitalize on the student and faculty research potential at U of G and use the expertise of Guelph faculty in their training seminars.

"This is a means to establish a long-term ongoing relationship between the University and the food industry," says McLaughlin. "By doing so, the two groups get to understand one another and realize their complementary strengths. It's a way for industry to gain value by having access to the whole range of strengths at the University while retaining an abil-

ity to do confidential research and protect their rights to proprietary products and processes."

The centre's headquarters are temporarily being housed in the Office of Research on the second floor of the Reynolds Building. This spring, the business offices will move to a larger facility in the Textiles Building until the GFTC's permanent home in Phase 2 of the Food Science Building addition is complete. □

### Correction

In the Feb. 8 issue of *At Guelph*, the outline with the photograph of MA graduate Tracy Gooden incorrectly identified the child accompanying her as her sister. She is, in fact, Gooden's niece. □

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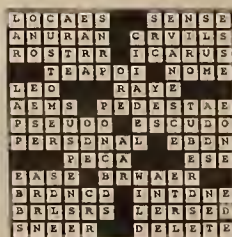


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## Air-quality team sets sights on UC, library

by Kerith Waddington  
University Communications

**H**ow's the air up there? That's what members of the air-quality assessment team from Physical Resources are asking users of the University Centre and U of G Library as they continue to examine and refurbish air-control systems across campus.

Gearing their efforts towards temperature control and the alleviation of sick-building syndrome — symptoms include headaches, nausea and irritated eyes — the team welcomes input from the University community on air-quality concerns associated with either building. Team leader Lloyd Cummins of Building Environment Systems believes that although both buildings have a history of complaints, conditions can be improved.

"After appropriate changes were made in buildings earlier assessed, the level of complaints went down," he says. "Now is the time to let someone know if concerns exist."

### Perimeter heating

The team will study the effectiveness of perimeter heating systems, which are located at the exterior walls, as well as the ventilation systems used for cooling in both summer and winter. Carbon dioxide levels — which indicate how well a ventilation system is working — will be measured in both buildings.

Based on its findings, the team will present recommendations and cost estimates to the Executive Committee at the end of April.

Cummins notes, however, that some concerns have already been identified.

Smoking is the most contentious air-quality issue in the University Centre. University standards require that exhaust from areas that permit smoking go directly outside, but because of shared venti-

lation systems, air from the Boo Bar, Grad Lounge, Centre Six and the University Club is being recirculated into non-smoking areas. Cummins expects that smoking in these areas will be eliminated after the recommendations are made unless University standards can be met.

### Open concept

Sick-building syndrome has also been identified as a problem in the centre and is partly due to the building's open concept, says Cummins. Office dividers — used to provide privacy — collect dust and interfere with the ventilation system. The team will continue to discourage use of the dividers, he says, and will analyse the effectiveness of fresh-air supply and return ducts located in the centre.

Cummins says ventilation in the library should also improve with the reinstallation of return fans eliminated in the late 1980s.

In the meantime, he offers tips to help minimize the effects of sick-building syndrome. "Move around during the day to expand the lungs — get out for lunch even if just to another building. Feeling poorly is, in this case, a combination of air and what the body does with it."

### Good news

But he has good news about the overall quality of air in modern buildings. "When a ventilation system is working properly, the air within modern buildings is probably healthier than that encountered anywhere else because from 20 to 100 per cent of what is circulated is outside air that is also filtered."

Concerns can be directed to Marilyn Hahn of the University Centre committee at Ext. 2889 or Bill Hulet of the library air-quality committee at Ext. 2301. □

## Only hazardous, diseased trees to be removed at Cruickston

U of G will cut only dangerous and some diseased trees at its Cruickston property in North Dumfries.

The decision was reached following a Feb. 7 meeting between the University and the planning and culture department of the Region of Waterloo.

University and regional officials agreed that only trees that could endanger personal safety, trees that could fall on buildings or roadways and some diseased trees should be removed.

A team of University and regional officials walked the property last week and mutually agreed on which trees should be marked for removal. The team consisted of Peter Williams, a registered professional forester and a research

associate in the agroforestry program in the Department of Environmental Biology; Prof. Doug Larson, Botany; Chris Gosselin, manager of environmental planning with the Region of Waterloo; and Bob Felker and Ted Cheskey from the Region of Waterloo's ecological and environmental advisory committee (EEAC).

"We have listened to and respect the public's concern for saving the mature trees," says Nancy Sullivan, vice-president, finance and administration.

"But at the same time, the University must demonstrate reasonable care to ensure that the property is safe for the residents, faculty and students," she said. □



On hand for the official announcement of U of G's three-year project on environmental planning in southern Africa are, from left, Prof. Don Reid, director of the University School of Rural Planning and Development (USRP&D); Steve Blais of the Canadian International Development Agency; Prof. Nonita Yap, USRP&D; MP Brenda Chamberlain; and president Mordechai Rozanski.

Photo by Kerith Waddington, University Communications

## Africa information session Feb. 17

Continued from page 1

Prof. Nonita Yap of the University School of Rural Planning and Development (USRP&D) will lead the three-year project in partnership with Richard Fuggle of the department of geographical and environmental sciences at the University of Cape Town, South Africa. The project marks U of G's first link with a South African institution.

On Feb. 17, Yap will lead a public information session about the project from 2:30 to 4 p.m. in Room 303 of the MacKinnon Building.

President Mordechai Rozanski described the project as an example of how research in the social and natural sciences can be combined not only to expand Canada's store of knowledge, but also work with African nations as they define and implement their planning goals.

"The University is also very pleased to continue our beneficial relationship with CIDA," he said. The agency has supported many U of G projects in Africa, including work in Ghana, Kenya and

Cameroon.

USRP&D director Don Reid said the school is looking forward to implementing the teaching component and seeing its impact in southern Africa. The school is also looking forward to the knowledge gained through the research activities, which should have an impact on international development in general, he said.

The goal of the training program is to enhance the ability of development personnel and institutions to address resource and environmental issues in their social, cultural, economic and political context, said Yap.

The research component will provide funding to students and faculty at Guelph and in Africa for community-based collaborative research in outreach, policy, planning and management of environmental and natural resources.

The internship/outreach component will provide opportunities for "hands-on" learning of practical skills such as program design, management or evaluation.

Gender and development will be integrated into the training, and women's participation will be

promoted throughout the project.

In early 1994, an eight-country needs assessment funded by the International Development Research Centre was undertaken to establish priority environmental needs. These include planning and management for watersheds, wetlands and ecotourism and sustainable agriculture. The eight countries were South Africa, Zimbabwe, Kenya, Uganda, Tanzania, Botswana, Lesotho and Mozambique.

The needs assessment culminated in project development, which was done in Zimbabwe in April. "It was a collaborative process," said Yap. "People shared information and everyone contributed something."

She will go to Africa at the end of February for a project inception mission. U of G will be responsible for recruiting training experts and officers, providing short-term training, co-ordinating field activities, and preparing reports, study visits, evaluations and work plans. The first priority area, ecotourism planning, will be addressed and offered in Zimbabwe this year. □

## Director of development named

Pam Healey has been appointed director of development in the directorate of University Affairs and Development.

Healey, who has been interim director for the past 14 months, will be responsible for U of G's centralized fund-raising operation — major giving, annual giving and planned giving — and ensuring that all programs are in support of the University's priority needs, such as the new aquatics sciences facility, the President's Endowment Scholarship Fund and the annual fund.

President Mordechai Rozanski says he's pleased with Healey's appointment. "University Affairs and Development raised more than \$5.2 million in 1994," he says, "and much of this success is due to the efforts of Pam and her talented staff in the Development Office."

Healey will be working on new strategies to increase the size of the University's donor base and the level of giving. In annual programs, this includes the Parents' Program; the Campus Fund; the annual solicitation for the Alma Mater Fund; the new Class Act program, which is an appeal to graduating students; and Young Alumni Advocates, a new program

for graduates of the last five years.

Healey is also responsible for processing and receipting gifts and ensuring that the University abides by Revenue Canada guidelines to maintain its charitable status.

She is working with the new University of Guelph Foundation, a Crown agency foundation that provides special tax benefits to donors,

and the Chicago-based Friends of the University of Guelph, U of G's charitable arm in the United States.

Born and raised in Guelph, Healey is a U of G graduate who received her BA in English and fine art in 1973. Last year, she received an MBA from Wilfrid Laurier University. She joined the University as a full-time staff member in 1987 and has extensive experience in public relations and fund raising in UA&D. □



Pam Healey







# Driven research gets boost from URIF

## Computers provide ANN-swer for improving cancer diagnosis

by Tammy Grime  
Office of Research

**E**xamining cervical smears for cancer is a painstaking, taxing procedure for medical technicians, and volume is growing all the time. A Guelph-led research team is developing a high-tech computer program to improve the speed and accuracy of diagnosis.

Prof. Deborah Stacey, Computing and Information Science, says the sheer volume of smear samples means medical technicians have just 20 minutes to study a slide, which can contain up to 10,000 cells. "Examining the endless number of cervical smears is exhausting and extremely difficult," says Stacey. "It requires highly trained — and highly paid — technicians."

So she's proposing an alternative — using computers.

Currently, cervical cell or "pap" smears (named after the late George Papanicolaou, the U.S. anatomist who devised the test) are examined microscopically. The diagnostic system is more accurate than ever, but human error caused by fatigue, stress or sheer volume is a constant possibility. Stacey estimates that such factors can cause the accuracy level of testing to drop below 70 per cent, a figure that's unacceptable in cancer diagnosis.

And although computers have their own problems, they aren't affected by exhaustion the way humans are. Stacey says a computerized diagnostic system would have the potential to operate at 100-per-cent accuracy around the clock. Such a system would save laboratories money and allow technicians to concentrate their expertise on the 10 per cent of cell smears that are positive.

Researchers have recognized the advantages offered by a computerized diagnostic system for some time, but conventional computers

have proven inadequate for the task. So Stacey is using a new state-of-the-art computer system called an artificial neural network (ANN) and has developed a program to analyse cell samples.

"Ordinary computers work sequentially, completing one instruction after another," she says. "ANN is modelled after the human brain. It consists of 'nets' that allow it to 'think' about many things at once."

That makes ANN uniquely suited to cell diagnosis. Many cancer-determining cell features can be entered into the computer's database; any smears containing those features can then be recognized by the computer. A photographic image of the smear as seen through a microscope is "read" by the computer and digitalized, enabling the computer to analyse the cells.

Preliminary successes with ANN have been encouraging. Stacey's team has been able to program the computer so that it needs to examine only 15 cell features to determine if a cell is precancerous — a major accomplishment compared with the 57 cell features previously required. She has achieved more than 90-per-cent diagnostic accuracy and continues to improve that rate.

Stacey says that using her program with ANN has many applications in other forms of cancer and disease diagnosis, as well as in industry. She estimates that using this system for cervical smear diagnosis alone will save Ontario well over \$3 million.

Her research has received support from Morphamatrix, a major medical lab in Toronto, and from URIF. Her data are being provided by Morphamatrix and the B.C. Cancer Institute. □



Prof. Deborah Stacey says computerized cancer diagnosis has the potential to operate at 100-per-cent accuracy. Photo by Trina Koster, Office of Research

## You heard it through the transgenic grapevine

by Steve O'Neill  
and Owen Roberts  
Office of Research

**O**ntario's wine industry and U of G are using biotechnology to take winter's chill out of the province's grape crops... and potentially create thousands of new jobs.

The initiative is being driven by Ontario's Chateau des Charmes Wines Ltd. Researchers there have long been working to develop a winter-hardy grape through cloning and other methods aimed at selecting for cold-resistance traits. To capitalize on the potential of today's biotechnology, the company found the ideal research partner in Prof. Bryan McKersie, Crop Science, who had developed a unique method to genetically engineer cold tolerance into alfalfa.

Together, Chateau des Charmes and McKersie decided to apply the process to grapes.

To this end, the wine producer has received an 18-month Industrial Research Assistance Program grant from the National Research Council to pursue winter hardiness for wine-quality (vinifera) grapes, using the gene-transfer techniques of McKersie's team. U of G is also receiving graduate student support from URIF for the project.

Chateau des Charmes president Paul Bosc says cold stress is the most limiting factor in the growth and expansion of vinifera grapes in Ontario. He believes the long-

term economic benefits of a single winter-hardy transgenic vine, which could then be vegetatively propagated or cloned, are overwhelming.

According to the Wine Council of Ontario, there are more than 25,000 acres of suitable grape sites in southern Ontario that could benefit from a hardy vinifera vine. The council says that such an expansion could create more than 3,000 local jobs and yield wine worth \$625 million in retail sales annually.

Ontario's wine industry is one of the province's best business stories of the past five years. Since 1990, sales of Ontario Vintners' Quality Alliance (VQA) wines — those made from nothing but Ontario grapes — have increased dramatically (they dipped in 1994, but only because winter damage had reduced the grape supply). Besides enjoying major domestic popularity, they're also in demand abroad, especially in Japan and the United Kingdom.

Ontario wines are also taking top awards in international competitions. In 1993, Chateau des Charmes became the first Canadian winery to win a gold medal for a table wine at Bordeaux's VINEXPO, the world's largest and most prestigious wine trade fair. The company's 1990 Paul Bosc Estate Chardonnay was the only North American white wine to be awarded a gold medal in the competition.

Much of this quality increase is the result of Ontario wineries such

as Chateau des Charmes importing and growing superior foreign vinifera grape varieties, mainly from Europe. Unfortunately, however, these varieties don't handle harsh Canadian winters well.

"During the winter of 1993, which was particularly cold, farmers growing vinifera varieties lost nearly 60 per cent of their crops," says John Paroschy, research scientist for Chateau des Charmes. "Losses to the local wine industry in the Niagara Peninsula alone that year approached \$30 million."

Paroschy says that devastation could be eliminated if vinifera's winter hardiness was improved even slightly. "If we could make the plants withstand temperatures just a few degrees lower than they tolerate now, the entire crop would probably survive the winter."

That's where McKersie and graduate student Brenda Rojas might be able to help. Since 1988, they've been working with genes that occur naturally in nearly every kind of plant and detoxify oxygen molecules activated by stress. During freezing and drought, these molecules attack plant cells and cause decay.

In the laboratory, McKersie's team took a gene — in this case, from tobacco — and changed its "regulation" (the mechanism controlling where the gene is activated or begins to express) for greater expression in the roots and vascular tissue, which transports

water and organic compounds. They then put the gene into alfalfa; in doing so, they made the plant even more resistant to stresses like freezing. Field tests conducted by Prof. Steve Bowley, Crop Science, showed the transgenic alfalfa outperformed its non-transgenic counterparts.

So now McKersie and Rojas are trying to apply the transgenic process to grapes. The first step was to regenerate the plants using a method called somatic embryogenesis, the creation of an embryo — and ultimately a plant — from a single cell.

Although a few decades ago, somatic embryogenesis in grapes was largely what Paroschy calls "science fiction," Rojas's adaptation of the process was successful. The team has developed plants from somatic embryos, which they're now growing in incubators. These grapevines are a first for Canadian viticulture, says Paroschy.

The researchers' next challenge

will be to establish a genetic transfer system for grape plants, using a "marker" gene so that the transferred genes can be identified in the plant's cells. They're using a gene called  $\beta$ -glucuronidase or GUS, which turns the transgenic cells blue when samples of the plant are exposed to a specific chemical.

Once the most effective gene-transfer system is established, the effect of a number of single genes on a vine's freezing tolerance can be evaluated.

Paroschy, who's stationed part time at U of G to take part in the research, says this project could prove crucial to the future of the province's — and the country's — wine industry.

"The development of winter-hardy vinifera varieties is critical for the expansion of the Canadian wine industry. This could start a historical direction for viticulture in Canada and throughout the world." □

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## NOTICES

### Theatre on the Grand

The Fergus and Elora branches of the Royal Canadian Legion present *Billy Bishop Goes to War* Feb. 21 at 8 p.m. for one performance only. Proceeds go to the theatre. Tickets are \$17 and are available by calling the box office at 787-1981.

### Visitor housing

The Off-Campus Housing Office manages four furnished bachelor and one-bedroom apartments at 97 Farquhar St. for visiting faculty, scholars and staff. Daily, weekly and monthly rates are available. Bookings are being taken for March and beyond. Advance reservations are recommended. For information, call Ext. 3357.

### Stressed out?

The Stress-Management and High-Performance Clinic will hold noon-hour classes starting Feb. 21. Classes run Tuesdays and Thursdays. Cost is \$40 for U of G students, \$120 for non-students. Brochures are available at the

Connection Desk on Level 3 of the University Centre or mail your fee to the Stress-Management Clinic, Box 4155, University Centre.

### Engineering scholarships

The Canadian Council of Professional Engineers is opening its annual national scholarship program competition. Candidates must be full members of provincial or territorial professional engineering associations and must be accepted for postgraduate studies. Application deadline is May 1. Contact your engineering association or write to the Canadian Council of Professional Engineers, 401-116 Albert St., Ottawa K1P 5G3.

### Staebler lecture

Joseph Schneider Haus in Kitchener will host the first Edna Staebler Fellows Lecture Feb. 23 at 7:30 p.m. The topic is "Letters Home," focusing on Ephraim Weber's letters to Leslie Staebler from 1902 to 1955. Call 519-742-7752 to reserve a seat. □

## Sigma Xi honors best in science

The Guelph chapter of Sigma Xi, the Scientific Research Society, presented its annual awards for local contributions to science at an

awards banquet earlier this month. This year's recipients are all members of U of G.

Winner of the Excellence in Re-

search Award is Prof. Terry Beveridge, Microbiology, who gave the annual Sigma Xi lecture on "Bacterial Surfaces: Sophisticated, Elegant Garments That Interact Strongly with Their External Environment."

The D.G. Ingram Award for best PhD thesis was presented to Nan-Fei Xu of the Department of Botany; the H.S. Armstrong Award for best M.Sc. thesis went to Kevin McCann of the Department of Zoology.

Sigma Xi presented two Support of Research Awards — to Jackie Marsh of the Department of Physics and to Jeff Schieck of the Office of Research.

Prof. Larry Peterson, chair of the Department of Botany, is president-elect of the Guelph chapter of Sigma Xi. □

## Hafa board recognized for tourism training

The School of Hotel and Food Administration's policy advisory board has won the Partnerships in Tourism Training Excellence Award given by the Ontario Tourism Education Council (OTEC).

The award recognizes commitment to tourism training through partnership with OTEC-member colleges and

universities.

Hafa's policy board, made up of executives from several leading hospitality enterprises, has worked since 1980 to provide advice in curriculum, strategic direction and co-operative education for Hafa's undergraduate, graduate and executive-development programs. □

## JOBS

As of *At Guelph* deadline Feb. 10, the following opportunities were available:

**Journal Assistant, Ecosystem Health, Faculty of Environmental Sciences**, part time for about 14 hours a week for up to five years. Salary: \$12.60 an hour. Removal date: Feb. 15.

The following was available to on-campus employees only:

**Administrative Assistant, Office of the Vice-President, Finance and Administration**. Salary Range: \$16.23 minimum, \$20.28 job rate, \$24.34 maximum.

It is the University's policy to give prior consideration to on-campus applicants. To determine the availability of University employment opportunities, visit Client Services on Level 5 of the University Centre or call 836-4900. □

### FOR SALE

1990 Nissan King Cab 2WD pickup, four-cylinder, power steering and brakes, cap for box, dark red, serviced by dealer, 109,000 km, Annette or Bruce, 836-2597 or e-mail amoriso@uoguelph.ca

1987 Toyota Celica GT, red, automatic, power steering, sunroof, new exhaust system, good condition, 110,000 km, Shan, Ext. 4499 or 6234.

1987 Astro Van, excellent condition, many extras, George, Ext. 8743 or 836-0355.

1985 Nissan Maxima, black, four-door, standard, air conditioning, cruise, sunroof, alarm, AM/FM stereo cassette, certified, 824-5112.

Airtight woodstove, 821-5906.

### FOR RENT

Bachelor apartment, quiet, non-smoker, \$400 a month includes heat, hydro, cable, need car, 651-2169 evenings.

Two-bedroom apartment, balcony overlooking conservation area, quiet neighborhood, laundry, parking, cable, storage, close to Stone Road Mall and University, available immediately, \$625 a month plus utilities, 822-4837.

Four-bedroom house to share, main floor and upper level, large yard, patio, shed, driveway, York Road area, available May 1, \$1,000 (\$250 each) plus 2/3 of utilities, 856-9132.

### WANTED

Transcribing machine, Counselling Unit, Ext. 3244.

Exercise bicycle, sturdy, with console for distance, calories, etc., reasonably priced, Ext. 3839.

A ride to Halifax between March 1 and April 30, will share expenses, John, 837-0807.

Acoustic guitar, reasonably inexpensive, Ext. 77546.

### WANTED

Laptop computer, older model, 836-3103.

Fully detached house in Guelph for professional couple to rent, beginning May 1, Dave, 519-474-0496 or e-mail to the160@lawlab.law.uwo.ca.

### AVAILABLE

Free to good home, one-year-old female German shepherd/collie cross, country preferred, good with children, Carmen or Steve, 766-9854.

Elderly woman to babysit evenings in her home, 821-5906.

### FOUND

Watch found on College Ave., Bill, Ext. 8182.

Classifieds is a free service available to staff, faculty, students and alumni of the University. Items must be submitted in writing by Wednesday at noon to Linda Graham on Level 4 of the University Centre or fax to 824-7962. For more information, call Ext. 6581.

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# CALENDAR

## THURSDAY, FEB. 16

**Pathology Seminar** - Graduate student Padraig Duignan talks about "Morbillivirus Infection in Marine Mammals of the Western Atlantic" at 11:10 a.m. in Pathology 2152.

**Concert** - Pianist Valerie Candelaria performs at 12:10 p.m. in MacKinnon 107. Admission is free.

**Macdonald Stewart Art Centre** - A program of films by and about artist Michael Snow continues at 7:30 p.m. with *Dripping Water and Side Seat Paintings Slides Sound Film*. Admission is free.

## FRIDAY, FEB. 17

**Nutritional Sciences Seminar** - "Breast Cancer Induction in the Rat: Molecular Basis and Dietary Effects" is the focus of Michael Archer of the University of Toronto at 11:10 a.m. in Animal Science/Nutrition 141.

**Biomedical Sciences Seminar** - Graduate student Michele Forbes discusses "Thrombin/Thrombin Receptor-Dependent Regulation of Ovarian Cell Proliferation" at 12:10 p.m. in Biomedical Sciences 1642.

**Chemistry and Biochemistry Seminar** - Terry Thompson of the University of Western Ontario and the Lawson Research Institute will speak on "MR/MRS: High-Tech Help in the Search for the Fountain of Youth" at 1:10 p.m. in MacNaughton 222.

**Microbiology Seminar** - Ian Booth of the University of Aberdeen discusses "Bacterial Ion Channels: Therapeutic Targets for the 21st Century" at 2:10 p.m. in Chemistry and Microbiology 260.

**Economics Seminar** - "Asymptotic Properties of Nonparametric

Recursive GMM-Estimators for Dependent Data and Some Applications" is the topic of Xiaohung Chen of the University of Chicago at 3:30 p.m. in MacKinnon 310.

## MONDAY, FEB. 20

**Learning Resource Centre** - A seminar for international students on "Making Subjects and Verbs Agree" begins at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC Level 3.

## TUESDAY, FEB. 21

**Our World** - "Watershed in Conflict, Hanlon Creek Development" is the topic at 12:10 p.m. in UC 103.

## WEDNESDAY, FEB. 22

**Biochemistry Seminar** - Yu-wei Zhao talks about "The Role of Ca<sup>2+</sup> in the Control of Metabolism in African Trypanosomes" at 12:10 p.m. in MacNaughton 222.

**Plant Biology Seminar** - Tammy Sage of the University of Toronto explains "Characterization of Ovarian Incompatibility in Angiosperms" at 3:30 p.m. in Axelrod 117.

## THURSDAY, FEB. 23

**Pathology Seminar** - Graduate student Patricia Turner discusses "The Mechanisms of Ulcerogenicity of a Dual NSAID Inhibitor" at 11:10 a.m. in Pathology 2152.

## FRIDAY, FEB. 24

**Nutritional Sciences Seminar** - "Effects of Diet and Carcinogens on Colonic Intracellular Signal Transduction" is the focus of Robert Chapkin of Texas A&M University at 11:10 a.m. in Animal Science/Nutrition 141.

**Economics Seminar** - Yongmiao

Hong of Cornell University explains "Consistent Testing for Serial Correlation of Unknown Form" at 3:30 p.m. in MacKinnon 132.

## SUNDAY, FEB. 26

**Arboretum** - A walk to learn who lives in the sugar bush and who, besides humans, takes advantage of a sugar maple's flowing sap leaves from the nature centre at 2 p.m.

## TUESDAY, FEB. 28

**Our World** - "Deception in Panama" is the topic at 12:10 p.m. in UC 441.

# WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thombrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

Paul Bramadat discusses "When the Other is Really Other: Why We Need Evangelicals" Feb. 19 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road. □



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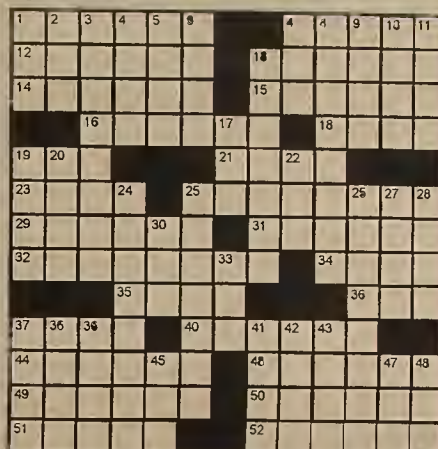
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### ACROSS

1. Passenger trains
7. Become aware of
12. Amphibian order
13. Raises trivial objections
14. Orator's platforms
15. Winged figure
16. Samovar
18. Alaskan cape
19. Zodiac sign
21. Comedienne
23. Eleemosynary aid
25. Place of honor
29. Spurious
31. Chilean coin
32. Newspaper item
34. Black
35. Actor Gregory
36. Compass point
37. Relieve from burdens
40. Falconer
44. Mustang
46. Utter musically
49. Trees of the bombax family
50. Chartered
51. Quip al
52. X out

### DOWN

1. Tutelary deity
2. Yoko
3. Patron
4. Commedia dell'
5. "Dr. Zhivago" character
6. Take photographically
7. Pouch
8. Dissipate like vapor
9. Actor Robert De
10. Squalid neighborhood
11. Existence: Lat.
13. Stronghold
17. Native mineral
19. Scandinavian
20. Different
22. Allright
24. Anxious uncertainly
25. Cloaks used as

26. Funnel-shaped flower
27. Bustles
28. Without
30. Female deer
33. Letters before an alias
37. Falls back
38. Irish island group
39. Bottom surface
41. "Walk On The Side" (Reed song)
42. Bending joint
43. And others: abbr.
45. Hardtop
47. Hockey goal
48. Nigerian city

**For crossword solution, see page 2.**

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## Making the scene

Members of the Barkling Fish Theatre Co. in the Department of Drama rehearse a scene from their upcoming production of *Girls' Night Out* by Diane Montgomery. In front are Linda Aniolin, left, and Sue Campbell. At back is Wenna Doig. The play runs from Feb. 20 to 25 at 8 p.m. at the Inner Stage. Tickets are \$6 Monday to Wednesday, \$8 Thursday to Saturday, and are available at the UC box office.

Photo by  
Keith Waddington,  
University Communications



## College Royal team gears up for 71st annual open house

by Ann Middleton  
University Communications

With 20,000 visitors expected in four weeks' time, College Royal's student organizers are in count-down position. This year's open house — the 71st — is March 18 and 19.

President Mordechai Rozanski says he doesn't know if the University community fully realizes the involvement and commitment of students in College Royal, believed to be the only student-run open house of its kind in the country.

"Our students put hundreds of

hours into planning," says Rozanski. "They do the University an immense service, but they need help from all of us to ensure that our visitors get a good picture of the University of Guelph."

College Royal receives financial support from all the colleges and the University as a whole, but also does fund raising to top up its \$50,000 budget.

"College Royal has done an outstanding job of revealing what we do on campus to the general public," says Prof. Jim Atkinson, Animal and Poultry Science, who, along with Prof. Joe Prokipcak, Chemistry and Biochemistry, has served as a College Royal faculty adviser for more than 15 years. "The publicity they generate for the research and teaching programs is invaluable," Atkinson says.

### Demanding job

This year's College Royal president is Karen Dupont. It's always a demanding job and particularly challenging for a first-year veterinary student.

In addition to her 27-hour class schedule, there are weekly meetings of the 100-member board, hours on the phone, executive and special-event meetings, office hours to put in and another 200 or so hours of organization and crisis management throughout the winter semester.

Now in her third year working on College Royal (she was in charge of public relations last year), Dupont says the stress does add up.

"But when it's all over and you hear what the entire community gets out of it, you feel really great about what you've done for the University," she says. "College Royal has given me a real feeling for the incredible scope of research and academic programs at Guelph. I think most of us who are involved gain a real sense of pride in our university."

### Personal benefits

And there are personal benefits as well. "I've improved my public-speaking ability," says Dupont. "I've learned how to write fund-raising letters. I've learned a lot about running a business . . . and I've made many, many good friends."

It's the broad scope of College Royal that gives student volunteers "almost unlimited opportunities to develop their organizational skills," says Atkinson. And when it comes to giving a student a reference for a potential employer, knowing students through their involvement with College Royal is often much more useful than teaching them in a class, he says. □



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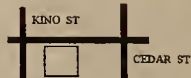
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## FIRST GLANCE

### February blahs?

Feeling full of cobwebs? Chalk it up to the February blahs. Shake yourself out at a free noon-hour concert, a drama production, a walk in the sugar bush or a public lecture on perspectives on an Oriental city — all happening on campus this week (see the calendar on page 11.) You'll feel better for it. And hang in, it's only four weeks until spring.

### Paris calls

An information meeting for the 1996 Paris semester will be held March 15 at 5 p.m. in Room 020 of the MacKinnon Building. Co-ordinator of the 1996 semester is Prof. Stan Barrett, Sociology and Anthropology.

The semester is open to students from all degree programs in semester three and higher. Courses will be taught in English by Barrett and Paris-based instructors. For more information, call Prof. Neal Johnson, French Studies, at Ext. 3168 or 3884. After May 1, call Barrett at Ext. 3403.

### Inside:

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Going head over heels for freestyle skiing . . . . 12

### Thought for the week

*Nothing is too small to know, and nothing too big to attempt.*

William Van Horne



### Bleak future looms for handweavers

Pakistan's 3,000-year-old handloom weaving industry is vanishing, says master's student Najeab Mirza, sitting here

amid handwoven textiles obtained on a recent trip to Pakistan. See story on page 7.

Photo by Trina Koster, Office of Research

## College Royal goes 'above and beyond'

Seventy-one and still going strong — that's U of G's College Royal. The largest open house of its kind in Ontario, it involves several hundred students from all areas of campus.

College Royal weekend is set for March 18 and 19 this year, with the campus open Saturday from 9 a.m. to 5 p.m. and Sunday from 10 a.m. to 5 p.m. This year's theme is "Above and Beyond."

New this year is a photography contest open to all members of the University community who derive less than half their income from photography. The contest has two divisions — novice and experienced — with seven categories in each division — university life, College Royal, sports, city of Guelph, children, photographer's choice and farm scenes. Entry deadline is March 15 in the College Royal office in Room 242 of the University Centre.

Also new this year are workshops for children on tree planting and bird feeders, sponsored by the Environmental Biology Club.

Traditional events include the chemistry magic show, a cat show, a fashion show, demonstrations of animal surgery and a petting zoo. The 42nd annual dog show will be held March 19.

This year's Curtain Call production is *City of Angels*. Performances are March 16 to 18 at 8 p.m., with a Saturday matinee at 2 p.m. Tickets are \$6 at the door. There will also be live entertainment on an open stage in the University Centre courtyard throughout the weekend.

A weekend lecture series launched in 1994 continues this year with Guelph faculty discussing topics such as the birds of Ontario, Gregorian chants and "Animals James Herriot Never Dreamed of."

For a complete list of College Royal events, see the supplement in the March 8 issue of *At Guelph*. Running concurrently with College Royal is the annual juried art show featuring the works of students in the Department of Fine Art.

For more information, call the College Royal office at Ext. 8366. □

## Library boosts security after books vandalized

Vandalism resulted in more than \$5,000 damage to journals and books in the U of G Library last week.

Someone poured syrup over more than 25 bound volumes of journals and a few boxes of unbound issues, says acting chief librarian Ron MacKinnon. The damage was first reported by students Feb. 15, but more damaged materials were discovered over the next two days as library staff combed through large portions of the collection, he says. Campus Police are investigating.

When the damage was reported, library staff quickly removed the materials from the shelves, inverted them to slow penetration into the paper, then removed as much syrup as possible, says MacKinnon. But the next day, the bound volumes were largely stuck together along the top edges.

"This is a serious crime that should concern all members of the University community," says MacKinnon. Replacing the books and journals will cost more than \$5,000, a conservative estimate based on their original prices, he says. "This means there will be \$5,000 worth of new books not purchased for the library collection unless we can get these titles replaced by donations."

Any member of the University community who has any of the following journal titles for the years indicated and would be willing to donate them to the library should call Tim Sauer at Ext. 3422. The titles are:

- *Journal of Urban History*, Vol. 12-18 (1985-1992);
- *Journal of Gerontological Social Work*, Vol. 6-13 (1983-1989);
- *Urban Studies*, all 1994 issues;

- *Child and Youth Care Forum* (quarterly), Vol. 14-20 (1985-1991);
- *Educational and Training in Mental Retardation*, Vol. 11-28 (1976-1993);
- *Animal Rights Reporter* (newsletter), 1992 to date;
- *Animals International* (newsletter), 1992 to date; and
- *Animal Alliance of Canada* (legislative newsletter), 1994 to date.

MacKinnon urges anyone who may have seen anything suspicious last week in the periodical HT or HV section of the library's third floor or in the BF book section of the fourth floor to call Campus Police at Ext. 2245.

"We hope this was an isolated incident and that it won't continue," he says, "but we have increased the level of security in the library." □



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## Farcus

By David Waples  
Gordon Gault art

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The sax still has appeal, but Jane Ellenton is focusing more on her studies these days.  
Photo by Maurice Oishi

## Food and music mix

by Maurice Oishi

There was a time when music was a career and food was a hobby for Jane Ellenton. Now it's just the reverse. Ellenton is a fourth-year food science student and one of two campus winners of a national award from the Canadian Institute of Food Science and Technology.

Along with Tanya Ditschun, Ellenton took home one of the six academic awards given annually by the institute. The \$1,000 award is "a nice boost when you've got your head in the books all the time," says Ellenton. But it doesn't lessen the desire to get back to her saxophone.

After graduating from Mohawk College in 1983 with a degree in music performance, she hit the road and made a comfortable living with her tenor horn. "For someone in their 20s, it was a good income. But you can't save money."

After six years, "I found I was taking jobs because they paid a lot of money, not because of the music. It became a job."

University was one destination

Ellenton had long considered. Coming from a family that "talks about food when we're not eating it," edibles were an obvious topic of interest. She enrolled in a nutrition program at U of G. The thought of studying science was unnerving, she says, but her concerns were quickly dispelled. She decided to transfer to food science.

Ellenton is currently doing research in the laboratory of Prof. Linda Harris on bifidobacteria and their probiotic potential. She intends to go on to graduate school next year.

With five courses, teaching saxophone one night a week and only the occasional gig, Ellenton rarely takes her horn out of its case. "I'm surprised how much I miss it," she says.

She hopes to eventually find a balance between science and art. "I think it's important to have variety in life. Music is a stress reliever. I'll always be playing, somehow." □

## LETTERS

## Has OMAFRA restructuring reduced bureaucracy?

Because of the restructured agreement between U of G and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), the past responsibilities of my department chair are now split between the chair and the animal program leader. Unfortunately, there is not complete agreement between them on how the splits should be made. Proper planning could have avoided this problem.

When a position comes open, which of these two people writes the job description and who makes the approval on who is hired? The department chair has to find office space, secretarial support and laboratory and computing resources for a new faculty member, whereas the program leader doesn't have to worry about these things or how they are funded.

One would have thought that a proper plan would have clearly delineated the responsibilities of the program leader versus the department chair and college deans on these matters before the restructuring process began. It seems to be an evolutionary trial-and-error process with only vague directions as to where it is going.

Has bureaucracy been reduced? There is a 12-page project registration form that must be filed, containing the correct coding for

species, commodities, functions and goals under Ontario Agriculture Services Co-ordinating Committee priorities and OMAFRA program goals. Each new project needs signatures from the principal researcher, department chair, program leader and species co-ordinator. This is in addition to animal-care forms, etc.

There is a species subcommittee — which we used to have, but which is now much larger — a species co-ordinator and a sub-management committee to review project proposals. It is at the sub-management committee level that projects are accepted or rejected. These are decisions that could have a major impact on departments and careers. Should this group be responsible for such decisions or should it be administrators?

Accountability is achieved by categorizing and enumerating everyone's time commitments to research projects. Researchers must explicitly list the people who will collaborate on a project, including technicians, farm staff, computer analysts, graduate students and others who used to be taken for granted as part of the infrastructure for backing up research. If we don't include these people, the department may not receive OMAFRA funds to pay

them.

In the past, these people would have helped many researchers and assisted on many projects, but now they will only be allowed to work on the projects where they are listed as collaborators. There could be reprimands if they help on other projects.

Does this foster greater collaboration among researchers in the University?

If I don't register any research projects, my department will suffer because it won't receive credit and dollars for my research efforts. Project registration does not, however, guarantee that a researcher will get any share of the OMAFRA operating dollars. Most researchers will get little or nothing.

Collectively, the restructuring process is contributing significantly to a lowering of morale and a deterioration of an atmosphere where people feel like helping others. Again, proper planning and foresight may have avoided these problems.

OMAFRA gave U of G administrators the responsibility to devise a system that reduces bureaucracy and paperwork and fosters collaboration among faculty across campus. The restructuring process will not achieve those goals without a solid plan.

Restructuring should be put on hold, and a proper well-thought-out plan should be started immediately, or we should return to the old structure.

So far, I don't see much in the restructuring process that has a positive benefit for anyone, except perhaps the administrators.

Prof. Larry Schaeffer  
Animal and Poultry Science

## Obituaries

Petra Zimmerman, who held various part-time positions across campus over the past 20 years, died Feb. 11 in Guelph. Her last appointment was as assistant for the Guelph Sexuality Conference from 1990 to 1992. She is survived by her husband, Werner, and two sons, Chris and Tristan.

John McConachie, a lifetime employee of U of G, died Feb. 19 at the Lapointe-Nursing Home in Guelph. He was 87. He is survived by two children, five grandchildren and four great-grandchildren. A tree will be planted in his memory in the Wall-Custance Memorial Forest Sept. 24 at 2:30 p.m. □

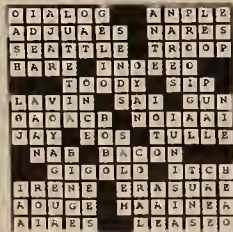
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Guelph graduate Frank Robbins will be waving Canadian flags in Australia for the next year as the recipient of a Rotary Academic Ambassadorial Scholarship.

Photo by Kerith Waddington, University Communications

## OAC grad will promote Guelph on Rotary program down under

by Kerith Waddington  
University Communications

OAC graduate Frank Robbins is taking U of G down under.

The recipient of a one-year Rotary Academic Ambassadorial Scholarship, Robbins will attend teacher's college at the University of Western Sydney in Australia for one year beginning this month, while serving as a goodwill ambassador for Guelph and Canada.

The Rotary Club — a community-service organization that promotes growth in individuals, groups and communities — pays tuition costs and covers travel expenses to anywhere in the world for students who qualify for its year-long scholarships. Robbins, originally from Orillia but attending U of G for the last seven years

en route to a B.Comm. in agricultural business and an M.Sc. in rural extension studies, looks forward in particular to the ambassadorial part of his Australian experience.

"I love this university and this city, both of which have given me a lot," he says. "I hope to return this favor by not only plugging the Guelph experience down under, but also by being involved with teaching-support liaison or academic counselling at the University upon my return."

Working with people and keeping busy come naturally to Robbins, who did stints as a residence assistant, food ombudsman, program director at International House, liaison for OAC and building superintendent — all while attending school full time. His con-

tributions to student life at U of G were recognized in 1991 with the R.P. Gilmor Award.

Robbins hopes to use the skills he's acquired at Guelph while in Australia — a destination he chose largely because of its beauty and its culture, but also because time constraints didn't permit the learning of another language.

"Academics are an important part of this position, but it is more than that," he says. "Different cultures will be experienced and shared as I meet people in Australia and tell them what Canada means to me."

Students interested in learning more about Rotary scholarships can consult the undergraduate calendar or contact their local Rotary Club. □

## CD-ROM broadens scope of language lab in College of Arts

Students from all departments in the College of Arts can now "tune in" to computer-assisted learning with the introduction of new computer and CD-ROM equipment in the college's Language Lab and Learning Centre.

The first facility on campus to provide this access for undergraduate students, the centre offers interactive language tutorials, CD-ROM study materials featuring ancient Greek texts, maps and photographs of archaeological sites, sculpture and pottery. It provides an opportunity for students taking humanities courses to use hypermedia tools. Examples in use this semester include "British Romantic Writing: A Hypertext Anthology" and a study of the Old English text *Dream of the Rood*.

Previously used exclusively for language learning, the centre has been expanded thanks to a grant from the student microcomputer fund.

The centre now provides a learning environment for all humanities disciplines, while continuing

to support language learning with videodisk instruction and computer-based modules. College of Arts dean Carole Stewart believes the centre will become integral to the delivery of programs in the college.

"The goal is to have available a facility where undergraduates can come in and use — as part of their work for courses taught in the college — CD-ROM material," she says. "It is expected to become an important learning-enhancement tool."

Humanities students are welcome to use the centre on an individual basis. Some learning modules that relate to specific courses are already in use, and faculty are examining new CD-ROM resources for possible use in upcoming semesters.

"Keeping up with technological changes as they occur is important," says Stewart. "It will help ensure that students' learning needs continue to be met." □

## Workplace violence affects mental health, commitment to job

by Margaret Boyd  
University Communications

People can suffer long-lasting effects when violence is experienced directly or indirectly on the job, a study on workplace violence has found.

The study, conducted by Prof. Kevin Kelloway and graduate student Kim Rogers, Psychology, looked at personal and organizational outcomes of violence at work. Their aim was to examine the long-term consequences of violence in relation to physical and emotional well-being and its impact on organizations.

The study looked specifically at physical violence, from the extreme of assault with a weapon to more subtle forms such as pushing or verbal threats. Rogers notes that these subtler forms may be as harmful as the more extreme forms if they create fear in the mind of the victim.

For the study, the researchers surveyed 400 employees of a Canadian financial institution about violence on the job. Half of the employees worked at sites that had been robbed; the others worked at sites that had not been robbed. The written survey had a 65-per-cent response rate.

Participants were asked questions such as: "Do you fear or are you afraid of being kicked or hit in the next year?"

Not surprisingly, employees at the financial sites that had been robbed reported a greater sense of fear than the other group. "Whether you are victimized yourself, you witness or you hear about violence at your work, it is associated with a greater sense of fear," says Kelloway.

Exposure to violence may cause people to become stressed, withdraw from their organization and look for new work. Psychological literature shows that people who experience violence in a particular setting often choose not to return there, but this isn't possible if violence occurs at work.

The state of fear is a predictor of mental health and is associated with physical health problems. As Kelloway notes, fear produces stress, which produces illness. People who did not fear a repetition of violence had fewer negative outcomes, such as poor health and withdrawal, than people who did fear repetition.

"Organizations need to be more aware and responsive to trauma," he says. "The trauma of violence is affecting people on a personal level and their commitment to the workplace."

One of the greatest risks of violence occurs when a service provider, such as a bank teller or social worker, becomes a "service denier," says Kelloway. The refusal to cash a cheque or provide service, for instance, puts an employee in a vulnerable position.

"A lot of the violence was due to robberies, but a lot was just day-to-day violence in the role of service denier," Rogers speculates. "There is more violence in the workplace than organizations think."

Next, Kelloway and Rogers want to look at the nature of fear resulting from violence. Kelloway suspects that by controlling the outcomes of violence through back-up support or by predicting potentially violent situations, negative outcomes can be minimized. □

## SAFETY WATCH

### Simple steps can ensure personal safety

Personal safety in residences and other campus buildings can be maintained by following a few simple guidelines, says Keith McIntyre, director of Security Services.

One of the biggest safety concerns people have on campus involves working alone at night and then leaving from labs and offices, says McIntyre.

"Let someone know you are working late, agree to check in at a certain time and call again when you are leaving," he suggests. "Or use the buddy system and work with a partner. There's always a way to minimize risk."

Other safety tips for those living in residence or working in campus buildings include:

- Never prop doors open — it places everyone in your building at risk.
- Lock your room, lab or office



door, even if leaving only for a few minutes.

- If a tradesperson or a repairperson requests admittance to your building, ask for identification or direct the person to someone in authority for assistance.
- If someone unknown requests entrance to your building or room, refuse them entry, offer to buzz the person they want or direct them to someone in

authority. Report any unauthorized entry to Campus Police.

- In an elevator, stand near the button panel with your back to the wall. If someone causes you difficulty, lean against the panel so that the elevator stops at all floors or use the emergency call button.
- Use Safe Walk, the service that escorts students, staff and faculty to campus buildings and parking lots.
- Use the emergency call stations to call Safe Walk or to be monitored by the police while walking up the road or to a residence from parking lots P13, P18 and P19.

McIntyre has one last suggestion. "Always be aware of your surroundings and where you can go for help if need be." □



# OAC's new curriculum to meet needs of the future

**Editor's note:** This fall, the Ontario Agricultural College will introduce changes to its bachelor of science in agriculture program that will set the college on a new course towards educating students for life and work in a rapidly changing world. The new curriculum, called Vision '95, will encourage students to become lifelong self-directed learners, a theme prominent in U of G's strategic-planning process. Here, University Communications writer Margaret Boyd provides an overview of the changes that lie ahead.

## Vision '95 moves beyond tradition

A redesigned OAC curriculum — "Vision 95" — is designed to prepare Guelph and area students for a better future in the workplace.

Changes to the bachelor of science in agriculture program, to be introduced next September, are part of a new thrust by U of G to educate students for life and work in a rapidly changing world.

Vision '95 aims to do more than prepare graduating students who are technically competent and who have a comprehensive understanding of the food system. There will be new focus on:

- communication abilities;
- analytical and problem-solving skills;
- the ability to work in teams;
- computer skills and the ability to resolve conflict; and
- an understanding and ability to deal with moral and ethical issues.

The changes are in keeping with changes in industry, says Mike Jenkinson, assistant dean of OAC. The agri-food industry needs em-

ployees skilled in problem solving, negotiation, communications and teamwork. In addition, the flattening of corporate structures and ongoing competitive pressures mean that businesses no longer have time to train people in basic skills, says OAC dean Rob McLaughlin.

The changes are also in keeping with U of G's strategic-planning process, which is proposing sweeping changes to the education of students, with more emphasis on self-directed learning and instilling a lifelong love of learning.

The new program will maintain OAC's traditional commitments to technical competence; scholarship support; student involvement with on-campus government and College Royal; first-year courses in chemistry, biology, economics and calculus; and providing the entrance requirements for veterinary medicine.

There will be fewer majors offered in the new B.Sc.(Agr.) pro-



gram, with greater strengths in physical, biological and agricultural sciences. Five majors are proposed — agricultural economics, agroecosystem management, agronomy, animal science, and horticultural science and business.

Students will also be able to take unspecialized programs or to develop individual programs that integrate courses from several departments/disciplines.

The new curriculum provides "an excellent opportunity for secondary school applicants to explore the exciting options available to them in agricultural science before making a commitment to a specialization," says Chuck Cunningham, assistant registrar for liaison.

The existing co-op program will be discontinued and replaced with work-study/externship opportunities (see story below). This new system will integrate the importance of practical experience with academic excellence in a series of summer work placements.

"The new curriculum promises to develop strong communication and people skills in agricultural students," says Cathie Lowry, executive director of the Ontario Agricultural Training Institute. "Graduates will be prepared for challenging careers in a competitive, dynamic agri-food industry."

The changes will take place over the next five years and will completely revamp the existing OAC curriculum. The development process began in 1990, when the OAC Dean's Council listed a review of the undergraduate program as a top priority for the future of the college. This proposal was supported by the senior administration of both the college and the University. Much student input has been involved in the process. □

## Changes call for more creativity in teaching

The practice of university teaching is undergoing evolutionary changes as major revisions are made to OAC's B.Sc.(Agr.) program.

The evolution, which is having an impact across campus, calls for greater creativity in teaching. Professors will be required to teach concepts such as leadership, problem solving and moral maturity in their course curricula. In addition, research activities will become an integral part of classroom activities.

This new emphasis on developing personal skills will not cut back on disciplinary training, says Prof. Tom Michaels, Crop Science. "What it will do is build on existing strengths in the college," he says.

Today's employers are demanding that graduates draw on a broad background in a range of disciplines contributing to agriculture when solving problems, and that they also be able to communicate their solutions to those problems, says Michaels. "Personal skills make students employable." In fact, many of the curriculum changes have been driven by food-industry needs.

In his experience, creativity in teaching infuses new excitement into the classroom. Many teachers are already creative; it's just a matter of keeping that creativity alive, he says.

"There should be no fear of new approaches. What we should fear is the mandate to teach certain ways. We need to stimulate more creativity in the teacher."

The changes in OAC will be introduced in a co-ordinated way to ensure that skills are developed throughout the program. Skill development in writing, problem solving and leadership will be integrated and applied throughout the entire program to ensure a continuum.

"It is a very supportive network that OAC students walk into," says Michaels. The college offers personal-development courses and encourages volunteer involvement in extracurricular activities.

Teaching Support Services is developing workshops to support faculty in introducing the new curriculum. Workshops on such topics as teaching moral and ethical dilemmas will be offered. □

## Externships to replace co-operative education

OAC plans to discontinue its co-operative education program and replace it with an externship program as part of Vision '95.

The externship will require students to work on a 10-week summer project as part of the B.Sc.(Agr.) program. Study abroad will also be encouraged.

Discontinuation of the co-op program, which consisted of four 12- to 16-week work sessions completed in alternate semesters after the third semester, was prompted by declining interest among students, says OAC dean Rob McLaughlin. The program had merits, however. It was regarded by professors as a broadening and maturing experience for

students, he says.

The new externship program will put the onus on students to seek work, using skills learned in the classroom. It's hoped that the OAC Alumni Association will be instrumental in organizing the new program, McLaughlin says.

OAC hopes to expand international study opportunities; there are currently exchange agreements with universities in Costa Rica, Australia and England.

The revised curriculum and added opportunities for work experience and travel will be well received by applicants, parents, guidance counsellors and prospective employees, says assistant registrar Chuck Cunningham. □

## The focus is on self-directed learning

OAC is shifting to a holistic form of educating its students. The shift — with more emphasis on communication skills and self-directed learning — is part of a campus-wide direction.

Frank Robbins, a former OAC student liaison officer, believes the changes match students' career expectations more realistically than in the past.

"There no longer exists the situation where you go to OAC, then work for the Ministry of Agriculture, Food and Rural Affairs and then retire with a whopping pension," he says.

The reality is that jobs are difficult to find and that graduates are expected to have leadership skills, good oral and written communication abilities and problem-solving skills — in addition to textbook learning. In fact, the workplace of the '90s is demanding that today's graduates have these skills.

Robbins believes that many philosophical changes suggested in Vision '95 are already being integrated. For the past several years, leadership seminars and a career week have been offered, and students have been encouraged to take part in student government. "There is a strong sense of community here," he says.

The new program puts the onus on professors to teach such concepts as "love of learning," "esthetic maturity," "depth and breadth of understanding" and "moral maturity" in their courses. A mandatory first-year course called "Introduction to Higher Learning" is exploratory in nature and helps students set goals for their education.

"In the future, there will be a greater emphasis on these kinds of things," Robbins says.

Michelle Jones, a graduate student and past president of the Student Federation of OAC, offers an example of the effectiveness of the college's new emphasis on problem-solving and communication skills. She and OAC students Norm Sutherland and Murray Froebe developed their own summer jobs with a Guelph communications firm. In their job pitch, they used problem-solving abilities learned in school to meet the parameters of budget and workload provided by the firm.

The curriculum changes are "a big step forward," says Jones. "They build on the strengths that are already there." □

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## Natural herbs sprout from artificial seeds

by Kerith Waddington  
and Owen Roberts  
Office of Research

Guelph researchers are creating artificial herbal seeds to capitalize on the \$500-million North American market for herbs. French tarragon (a culinary herb), peppermint (used for tea that calms stomach indigestion) and lemon-scented geraniums (found in potpourri and perfumes) — which are normally propagated by cuttings — are their initial targets, with more to follow.

"We are not trying to make the artificial seed the same as a true seed," says Prof. Tissa Senaratna, Horticultural Science. "We are trying to make it better."

In the first project of its kind in Canada, Senaratna, Prof. Praveen Saxena and research associate Massimo Sanago are creating artificial seeds from the tissues of herbal plants.

Artificial seeds have several advantages over cuttings. They survive better during shipping and help reduce shipping costs.

Because they're grown in a disease-free culture, they're free of pathogens and can eliminate the expense and lost time associated with quarantine. They also permit mass production of hybrid plants.

The technology to create whole plants from small pieces of plant tissue in sterile cultures is well known. Researchers cut a tiny (two-millimetre) piece of stem or leaf from the plant, sterilize it to kill bacteria and place it in a growth medium containing plant-growth regulators (auxin and cytokinins).

The growth regulators cause some cells to act like fertilized eggs rather than normal plant

cells. They grow into embryos, much like they would in a seed pod. With the help of certain nutrients and growth regulators, they ultimately develop like a seed.

In the late 1980s, Senaratna was co-inventor of a process to dry these "artificial" seeds so they could be practically packaged, shipped or stored. By introducing a certain combination of nutrients and growth regulators during the seed embryo growth stage — to mimic nature's own course of events — he initiated a developmental process that enables the seeds to tolerate drying or "desiccation," so they can be easily shipped (instead of shipping a whole plant or cutting).

"The development of artificial herbal seeds is expected to considerably boost an already expanding industry as access, costs and disease control improves," says Senaratna.

In addition, he and Saxena are working on the creation of an artificial seed coat — a nutrient-rich coating to cover the somatic embryo and enable enhanced growth, besides providing protection from rigorous and potentially damaging commercial planting techniques.

This research is being sponsored by Agriculture and Agri-Food Canada, the Natural Sciences and Engineering Research Council and Richter's Herbs of Goodwood, Ont.

"Creating an inexpensive and easy way to create artificial seeds will solve a common and restrictive horticultural problem," says Conrad Richter of Richter's Herbs. "I hope new markets will be established as a result." □



Prof. Mike Dixon is part of a team analysing the role that plants play in helping to support life in closed environments.

Photo by Trina Koster, Office of Research

## The space race: To boldly go where no plants have gone before

by Kerith Waddington  
Office of Research

One of Canada's newest contributions to the international space program is a five-year project analysing the role that plants play in helping to support human life in closed environments such as space capsules, space stations and, eventually, space communities on other planets.

Guelph's involvement centres around plant-, gas- and water-exchange studies at the Controlled Environment Research Complex in the Bovey Building. There, Profs. Mike Dixon, Bernie Grodzinski and Jim Tsujita, Horticultural Science, are collaborating with a variety of industrial partners and the Institute for Space and Terrestrial Science, to better understand how to sustain life in space.

And although this sounds like a scene from *The Jetsons*, Dixon says there are parallels with our everyday living conditions.

"The Earth's atmosphere is itself a sealed environment," he says. "The air is generated by a plant community, so proof exists right outside our windows that plants contribute to the support of human life."

Plants contribute to air quality through photosynthesis, the biochemical process that uses light energy to consume carbon dioxide from the atmosphere and release oxygen. Plants then accumulate carbon in various forms that ultimately become part of animal and human diets.

In addition, plants produce pure water necessary in the support of plant and animal life. Their "biofiltration" ability — the way they render pollutants such as ammonia, formaldehyde and sulphur harmless — further improves air quality.

Dixon believes that technology developed with the collaboration of various Canadian industries will hone these processes and lead to an environmental management model. To this end, the research team is studying:

- Overhead and supplementary lighting inside the plant "canopy" — the leaves and

branches — to enhance life-support processes such as taking up carbon dioxide and producing oxygen and food;

- Manipulating the photoperiod (the time the lights are on) to control concentrations of atmospheric gases such as carbon dioxide, oxygen and water vapor;
- Monitoring the water status of the plant, which reflects plant health and the success or failure of the environmental control strategy.

Dixon is optimistic about the long-term goal of ecosystem self-

sustainability.

"The web of life that will exist in the sealed environment creates a stable ecosystem — the whole of which becomes the life-support agent," he says.

This research is being supported by the Institute for Space and Terrestrial Science and the Natural Sciences and Engineering Research Council. Industry supporters are Hutchins International Ltd., Genetron Systems Inc., Constant Temperature Control Ltd., Lander Control Systems Inc. and Allied Signal Aerospace Canada Inc. □

## Six heads are better than one in solving agricultural problems, says program leader

by Owen Roberts  
Office of Research

Prof. George Brinkman thinks that six heads — at least — are better than one. He's setting out to help bring them together to solve pressing agricultural problems.

Brinkman, chair of the Department of Agricultural Economics and Business, has been appointed leader of the agri-food systems program in U of G's newly restructured research agreement with the Ontario Ministry of Agriculture, Food and Rural Affairs. With his appointment, each of the six programs (agri-food systems, plants, animals, food, sustainable rural communities and the environment and natural resources) now has a leader installed.

Brinkman's goal is to have the program leaders and researchers from across these program areas work together. He believes approaching agricultural research by collectively looking at its constituent parts addresses several of the challenges involved in dealing with such a broad-based discipline.

A problem with agricultural research in the past is that "we've traditionally looked at individual

problems in isolation," he says. "That tends to create overlap, and it's not the reality of agriculture. Many pieces come together to form a system, and that holistic approach is what we want to emphasize. I'm here to help put the pieces together."

As a result, Brinkman will be working closely with leaders and researchers in the other programs to encourage the development of what he calls "the linkage of multiple effects." One project already under way in the agri-food systems areas involves five researchers from as many departments examining sustainable farming systems. The project has environmental, social and economic dimensions.

"Projects like this require a willingness to work together and think together," says Brinkman.

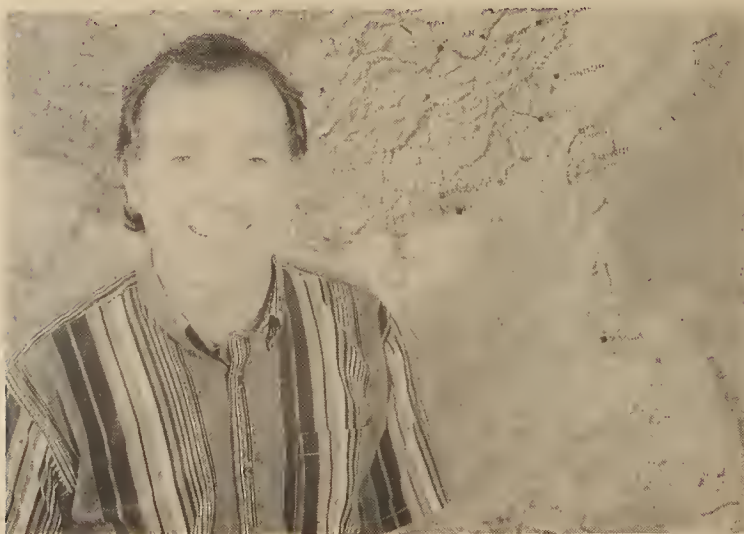
He is also sensitive about the connection between public needs and agri-food research. "The approach has traditionally been: 'If farmers grow it, someone will buy it.' But to be relevant, we have to ask what consumers want, how we can grow it in an economic and environmentally sound manner and how we can get it to them. That's a systems approach." □



Prof. George Brinkman has been named leader of the agri-food systems program.

Photo by Trina Koster, Office of Research





Prof. Michael Hoy is examining the impact of incomplete property rights on the local urban environment in Indonesia and the Philippines. Photo by Trina Koster, Office of Research

## Unclear property rights create anxiety

by Shawn Chirrey  
Office of Research

A head-on collision is occurring between developing countries trying to modernize their urban centres and the millions of people who have "incomplete" property rights there, says Prof. Michael Hoy, Economics.

An estimated one-third of all urban dwellers in developing countries do not have clear title to their property, says Hoy. And that creates great angst and uncertainty about the future.

"Not knowing whether or not they'll be forced to leave one day makes residents hesitant to improve their individual housing and deters communities from investing in local public goods like clean water, footpaths and garbage removal," he says.

Hoy and Emmanuel Jimenez, the chief of poverty analysis and the human resources division for the World Bank, are examining the impact of incomplete property rights on the local urban environment in Indonesia and the Philippines. This research is part of a larger project by the World Bank to compare and analyse the environmental effects on health and well-being across several countries.

Using data obtained by two con-

sulting groups (Urban Institute of Washington, D.C., and P.T. Hasfarm Dian Konsultan of Indonesia), Hoy and Jimenez are creating and testing models to better understand the implications of insecure tenure.

Their study examines tenure insecurities from both a subjective or personal level, asking questions such as "Do you feel you may be ejected from your land?" and at a legal level, asking such questions as "What rights really exist to property claims?" Hoy says this issue is further complicated by three existing types of property holdings: full property rights (via land title), the right of building and the right of residency.

In Indonesia, the situation for those with insecure property rights is better than in the cities in many other developing countries, he says. "There are reasonably high compensation levels for households without complete security of tenure who are 'evicted.'"

Still, there is substantial insecurity of tenure itself — only about 40 per cent of the people in urban centres hold deeds. Most of the others use tax receipts or a letter from a local official as proof of ownership.

This insecurity shows up in mat-

ters such as property management and investment. Hoy says an estimated 60 per cent of the garbage disposal in Indonesian cities is haphazard, by dumping or burning trash in the neighborhoods themselves (with a greater tendency to do so in areas with less secure tenure). This has serious environmental consequences.

"Property rights have a robust effect on the willingness to invest in public services at the neighborhood level," he says. "By examining this phenomenon in different countries, we can propose policy directions for investments to improve developing countries' urban conditions."

Hoy's research is supported by the Social Sciences and Humanities Research Council and by the World Bank. □

### International news on GRIFF

Information on U of G's international activities, available awards, and other announcements of international interest can be accessed on GRIFF under the category "International News" within the main categories "Faculty," "Staff" and "Students."

## Czechoslovakia crisis revealed in new light

by Margaret Boyd  
University Communications

The 1968 invasion of Czechoslovakia was an "extremely difficult decision" for the Soviets, and it helps account for the pattern of stagnation that developed in Soviet politics, says Prof. Fred Eidlin, Political Studies.

Eidlin recently spent eight months in the former Czechoslovakia studying previously secret documents dealing with the invasion and subsequent period of "normalization."

Shortly after the fall of the Czechoslovak Communist regime in 1989, a Czechoslovak Government Commission was formed to gather information on the events from 1967 to 1970. Eidlin is one of the few non-Czech or Slovak scholars who have had access to the materials collected by the commission.

These include top-secret documents from such sources as the Czechoslovak Communist Party, State Security (secret police), interviews with key participants and transcripts of key meetings and conversations. They also include a large number of Soviet documents; among them is the transcript of a telephone conversation between Alexander Dubcek and Leonid Brezhnev days before the invasion.

"Czechoslovakia in 1968 was a harbinger of perestroika and the collapse of Communism regimes everywhere," he says.

Eidlin was studying in Prague in the summer of 1968 throughout the crisis period leading up to the invasion. He left Prague two days after the invasion and became the policy analyst responsible for Czechoslovakia with Radio Free Europe in Munich. Over the next 15 months, he followed events in Czechoslovakia closely and remains intrigued by the "puzzling character of the invasion and the ensuing period of normalization."

In 1980, he published a book about the invasion. "While I was writing that book, I never dreamed I would get access to the kinds of source materials I was working with in Prague, at least not so soon," he says. The book he's now working on deals with the process by which the reform movement was slowly and arduously rolled back during the years following the invasion.

Eidlin poses the question: "Not being able to find anyone to rule under their protection on Aug. 21, 1968, how did the Soviet leadership go about re-establishing an orthodox Soviet-type regime in Czechoslovakia?"

He believes two realities shaped the fate of Czechoslovakia during the 21 years between the invasion and the collapse of the Communist regime. On the one hand, the Soviets needed to make the invasion appear necessary and desirable. Yet the Czechs and Slovaks almost unanimously rejected the invasion. Although their overt resistance was finally broken and their leaders eventually followed the Soviet point of view, hostility

never died out.

Eidlin notes that the Soviet and allied Communist leaderships grappled with the problem of Czechoslovakia for a long time. The most commonly held view is that the invasion took place because the leaders of the invading countries opposed the reforms that got under way in Czechoslovakia in 1968. This view is much too simple, he says. In fact, almost all the reforms taking place in Czechoslovakia were also taking place in the Soviet Union and elsewhere in the Soviet bloc.

"To some extent, the Soviet leadership accepted — even encouraged — the Czechoslovak reform movement," says Eidlin. "At the same time, the Soviets and their allies feared that this process would get out of control. They believed that Dubcek and his reformist allies were naive and did not understand the realities of power. After they had decided to use force and roll back reform in Czechoslovakia, they were forced to also roll back reform tendencies in their own countries."

The trauma of Czechoslovakia frightened Soviet bloc leaders from attempting the fundamental reforms that might have prevented the total collapse of Communist regimes that took place at the end of the 1980s.

The Soviets and their allies saw the situation in Czechoslovakia as out of control, says Eidlin. They believed the Czechs and Slovaks should have been grateful for being saved from counter-revolution.

"For the Czechs and Slovaks, the only abnormality in the post-invasion situation was the presence of foreign troops. It took several years and a great deal of sustained effort for Soviet policy to bring Czechoslovakia effectively under the control of politicians who shared the Soviet point of view."

The normalization process was clearly not something that was carefully planned with clear goals in the minds of Soviet leaders, he says. "It was a long and boring bureaucratic process with an outcome almost no one had wanted or anticipated."

Were there any big surprises in the top-secret documents and transcripts? One surprise was that there were so few surprises, says Eidlin. What Soviet leaders said to Czechoslovak leaders in their private, secret discussions was not all that different from what they said in public and published in *Pravda*.

It's also intriguing that so many questions remain puzzling, he says. For example, it's still not much clearer why the political arrangements made in conjunction with the military intervention failed so dismally.

"I was also a bit surprised by the patience and politeness Brezhnev showed in discussions with the Czechoslovak leaders. I had thought that the Soviet leaders had treated their discussion partners much more roughly." □



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# T GUELPH



Guelph-Buea Project leaders Pamela Mesanga Martin, left, and Mary Mburwe were on campus recently for the project's closing symposium. One of the results of the project

was the establishment of much-needed day cares in Cameroon. Above, Martin and Mburwe visit the U of G Child-Care Centre with Guelph project director Prof. Ab

Moore. Showing off their craft handiwork, are, front row from left, Shibani Choudhry, Alvin Islam and Allison Forsyth. At back are Siddharth Sadanand and Sarah Zuiani.

Photo by Trina Koster, Office of Research

## Cameroon connection yields hospital ward, day cares

by Lisa Chandler  
Office of Research

More than 8,000 Cameroonian women have been trained in health care, business, education and agriculture over the past five years, thanks in part to a human resources training program involving U of G.

The training was provided through the recently completed Guelph-Buea Human Resources Development Project, which began in Cameroon in 1989.

Funded by the Canadian International Development Agency (CIDA), the project was a joint venture between U of G and the Association for Creative Teaching (ACT) in Cameroon.

Faculty members in U of G's Department of Rural Extension Studies worked with Cameroonian co-ordinator Pamela Mesanga Martin and other female leaders throughout the project's duration.

The project was designed to help

women to help themselves, rather than provide any direct funding to the women.

"We knew that if we could train women how to organize themselves into effective groups, to set objectives and draw up proposals, the rewards would come," says Martin. "They have."

Martin and Mary Mburwe, another project leader, came to Guelph last month to take part in the closing symposium for the project and to write its final report.

They say tangible results of the project are already evident in Cameroon. One women's group, for example, built a ward on a Cameroonian hospital to improve health care. Other groups have opened much-needed day cares across the country.

At Buea University, a program in women's studies was launched and has quickly become one of the most popular and fastest-growing departments on campus. Women are making advances career-wise

as the number of women in higher administrative and academic positions increases.

"The degree to which women have become more self-confident and more aware that by working co-operatively, they can accomplish things not previously possible has been awe-inspiring," says Guelph project director Prof. Ab Moore.

The increase in awareness and self-confidence has prompted Cameroonian women to take a more active role internationally. In preparation for the Fifth Annual World Women's Conference in Beijing later this year, more than 160 women attended a recent conference in Dakar, West Africa, most at their own expense.

"Having succeeded in awakening the women to their needs, the onus is now on them to take responsibility for their own development," says Martin.

Before 1990, Cameroon's government enforced a law against

association, the forming of groups. The timely Guelph-Buea Project has helped women adjust to their new freedom.

They are now organizing and re-organizing existing co-operatives and service clubs to deal with development issues.

"Right now, the stage has been set for the women to be given the kind of aid that enables them to do what they have decided they need to do," says Martin. The group is applying for additional funding to continue to build on the ground-work that has been laid. □

## Handloom weaving comes apart at the seams in Pakistan

by Anne LeBold  
Office of Research

Pakistan's 3,000-year-old handloom weaving industry is vanishing, according to a U of G study.

Najeeb Mirza, a master's student in the University School of Rural Planning and Development, found a scarcity of handloom weavers during a recent nine-month tour of Pakistan.

"I travelled to various villages to see what is going on with the weaving industry," he says, "and I found that in rural Pakistan, most weavers had already left the business."

Handloom weaving was considered Pakistan's most important small-scale industry just 35 years ago, but household powerlooms and factories have swallowed up the country's textile industry. It's become high-speed and modern and has taken over the handloom weavers' markets.

Many handloom weavers are desperately poor, caught in a cycle of poverty where the traders hold the purse-strings. Attempts to form a weavers' co-operative have been unsuccessful.

Mirza, who conducted the pro-

ject under the supervision of Prof. Harry Cummings, says there is some scope for increasing the productivity and incomes of a few, but most handloom weavers are finding that their businesses are failing.

"Weavers have historically been at the bottom of the economic and social rungs of society," says Mirza. "Weavers and their children are realizing that many other occupations pay more."

Although weaving has been a family tradition for centuries, the children, too, are leaving the industry. Mirza believes that exodus signals the end for the industry, and many weavers believe they are the last generation of handloom weavers.

He thinks that although there will always be some demand for high-quality hand-produced textiles, the industry will become increasingly specialized. Although most handloom weavers will leave the business, a few will cater to the exclusive market for hand-woven clothes.

Mirza's research is sponsored by the Canadian International Development Agency. □

## POSTCARDS



→ Profs. Pablo Colucci and Jim Wilton, Animal and Poultry Science, and Kate Swanson, a third-year undergraduate student in geography and international development, participated in the recent official opening of a computer laboratory in Catacamas, Honduras. Colucci was the keynote speaker. The computer lab is part of a project between the Escuela Nacional De Agricultura (ENA) and U of G, funded by the Canadian International Development Agency. Other activities include the development of a feed-analysis lab, an animal genetics program and educational programs. Swanson is study-

ing at the ENA this semester.

→ Prof. Jim Sbutte, director of the Centre for International Programs, was a resource person for strategic planning undertaken in January by the Coady International Institute at St. Francis Xavier University in Antigonish, N.S.

→ Len Ritter, executive director of the Canadian Network of Toxicology Centres, has again been invited to serve as an expert adviser to the World Health Organization's Joint Expert Meeting on Food Additives to be held in Geneva in June. □



## RESEARCH AWARDS

The Ministry of the Environment granted various awards for a project titled "Sustainable Management Strategies to Protect and Enhance Environmental Quality of the Urban Green Space." Prof. Chris Hall, Environmental Biology, is co-ordinator of the project. The ministry awarded:

- \$6,000 to Prof. Greg Boland, Environmental Biology;
- \$6,000 to Prof. Tom Hsiang, Environmental Biology;
- \$10,000 to Prof. Pieter Groenevelt, Land Resource Science; and
- \$6,000 to Profs. Terry Gillespie and Gary Kachanoski, Land Resource Science.

Kachanoski also received \$129,750 from Agriculture and Agri-Food Canada for his work on "Water and Chemical Management Systems for the Turfgrass Industry."

Prof. Steven Rothstein, Molecular Biology and Genetics, was awarded \$22,300 by York University for a collaborative NSERC project with Daphne Goring of York. NSERC also awarded Rothstein \$1,137 to support a visit to the John Innes Institute in the United Kingdom for his work on "Molecular Genetics of Self-Incompatibility in Plants."

DSS-Environment Canada has awarded Prof. David Swayne, Computing and Information Science, 10 call-up contracts totalling \$217,575 for "Development and Investigation of Artificial Intelligence Paradigms for Environmental Problems."

The Ontario Apple Marketing Commission awarded Prof. Denis Murr, Horticultural Science, \$11,000 a year for five years to develop a diagnostic kit for scald in apples.

Prof. Bryan McKersie, Crop Science, was awarded \$115,388 each by the University Research Incentive Fund (URIF) and Château des Charnes for the project "Oxidative Stress and Winter Hardiness in Grape."

Prof. Bob Friendship, Population Medicine, was awarded \$7,800 by the Ontario Pork Producers Marketing Board for his work on "Gastric Ulcers in Swine."

Prof. Paul Voroney, Land Resource Science, received an NSERC collaborative grant of \$83,000 a year for three years for "Modelling of Soil Organic Matter Changes Under Corn Cropping Systems." The program also awarded Prof. Larry Spriet, Human Biology, \$95,000 a year for three years for his work on "Physiological and Molecular Basis of Skeletal Muscle Lipid Metabolism."

In addition, Spriet received \$3,000 U.S. from the Gatorade Sports Science Institute to support graduate students Sandra Peters, David Dyck and Paula Wen 'ing in their research on sports nutrition and medicine. The institute awarded Prof. Terry Graham, Human Biology, \$1,000 U.S. for graduate research by Marty Gibala.

Graham also received \$4,000 through NSERC's research-abroad program to study "Caffeine and Carbohydrate Metabolism" at the August Krogh Institute at the University of Copenhagen.

Owen Roberts of the Office of Research received \$7,000 from NSERC in support of the Students Producing Articles on Research Knowledge program.

General Motors of Canada awarded Prof. Bob Chapman, Mathematics and Statistics, \$49,160 for "Application of Artificial Intelligence in the Analysis, Design and Maintenance of the Automatic Guided Vehicle System for Performance Measurement/Maintenance Improvement."

Prof. Don Reid, University School of Rural Planning and Development, was awarded \$5,000 by Wellington County Tourism for a "Partnership Planning Program." He will also receive up to \$4,500 from the Ontario Heritage Foundation for "Rural Landscape Conservation Planning Process Research."

Prof. Keith Solomon, Environmental Biology, received \$46,281 from the Ministry of the Environment and Energy for his work on "Penetration and Extractability of Pesticides from Plastic Containers." He

was also awarded \$121,000 by Environment Canada to study "Polynuclear Aromatic Hydrocarbon Toxicity to Aquatic Organisms in the Presence of Creosote-Impregnated Materials."

Solomon and Glen Van Der Kraak, Zoology, received a total of \$390,000 from Industry Canada to study the "Effect of Installation of Secondary Treatment on Physiological Responses in Fish at Non-Chlorinated Pulp Mills and the Toxicological and Environmental Significance of the Compound(s) Causing Responses in Fish in the Receiving Waters."

Van Der Kraak also received \$48,150 from the Department of Fisheries and Oceans for his work on "Determination of the Variability Between Habitat Sites and Fish Reproductive Performance."

Prof. Shai Barbut, Animal and Poultry Science/Food Science, received \$40,000 from the Canadian Meat Council for "Development of a Sensor to Optimize Meat Emulsion Stabilization." He was also awarded \$21,500 by Flamingo Foods for "An Improved System for Handling Contaminated Poultry Carcasses."

Prof. Peter Van Straaten, Land Resource Science, received \$19,869 from the International Development Research Centre (IDRC) to work on the Sri Lanka II-Epawala Phosphate Project.

British Columbia has provided Prof. Roy Danzmann, Zoology, with \$4,000 to "Conduct Electrophoretic Analysis on Blackwater Creek Wild and Blackwater Hatchery Rainbow Trout."

Prof. Ed Janzen, Clinical Studies, was awarded \$90,000 by Health Canada for a "Study on Sensitivity of Aging Lungs to Oxidants Using Electron Spin Resonance and Magnetic Resonance Imaging."

Prof. Ross Nazar, Molecular Biology and Genetics, received \$30,000 from Health Canada for an "Assay of Nucleic Acids in Soils."

Environment Canada provided Prof. Rod Gentry, Mathematics and Statistics, with \$15,000 for "Verification of the Effectiveness of the Vincent Homogeneity Method on Daily Temperature Series."

Prof. Deborah Stacey, Computing and Information Science, received \$93,900 from URIF and \$72,000 (plus \$50,000 in kind) from Morphometrix for "Feature Selection for the Classification of Cervical Cells Using Artificial Neural Network, Genetic Algorithm and Fuzzy Logic Techniques."

Prof. Jack Trevors, Environmental Biology, was awarded \$54,000 a year for three years from NSERC to study "Molecular Ecology of Bioluminescent Phenanthrene Degrading *Pseudomonas* and Pentachlorophenol Degrading *Flavobacterium* spp. in Contaminated Soil." Trevor and Prof. Hung Lee, Environmental Biology, received \$155,000 from both URIF and Grace Dearborn Inc. for "Biodegradation and Toxicity Testing of Contaminated Soil." Lee also received \$10,000 from Kyung-Nam University for a project entitled "Isolation and Characterization of Microbial Strains Capable of Degrading Some Pesticide Compounds."

The Natural Resources Canada-Petawawa National Forestry Institute has provided Prof. Richard Reader, Botany, with \$5,000 for "Development of Models for the Regeneration of White Pine Under Various Moisture and Shading Regimens."

Prof. Robert Jacobs, Pathology, received \$4,000 from the Canadian Association of Animal Breeders to study "Associations of Performance and Bovine Leukocyte Antigens in Bovine Immunodeficiency-Like Virus Infection."

Prof. Ron Harris, Environmental Biology, was awarded \$15,000 by DowElanco for research on turf management. He also received \$93,640 from the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) program Food Systems 2002 for "Management of Insecticide-Resistant Insect Pests Attacking Onions."

Food Systems 2002 also provided: ■ \$16,340 to Prof. Mark Sears, Environ-

mental Biology, for the "Design and Evaluation of a Mechanical Trench-Digging/Mulch-Laying Device for Construction of Plastic-Lined Trenches for Control of Colorado Potato Beetles";

■ \$156,000 to Profs. Ralph Brown, Engineering, and Glen Anderson, Crop Science, for "Efficient Spray Application Technology to Reduce Herbicide Use in Field Crop Production";

■ \$154,000 to Profs. Bernie Grodzinski, Horticultural Science, and Jonathan Schmidt, Environmental Biology, for "Reducing Pesticide Usage by Controlling Whiteflies and Thrips with High CO<sub>2</sub> While Enhancing Yield and Quality of Valuable Vegetable and Ornamental Greenhouse Crops";

■ \$110,050 to Prof. John Sutton, Environmental Biology, for "Biological Control of Botrytis Grey Mould in Greenhouse Ornamentals and Vegetables"; and

■ \$26,680 to Prof. Gord Surgeoner, Environmental Biology, for an "Evaluation of Hymenopterous Parasitoids and Nematodes for Control of Flies in Confined Animal Facilities."

Surgeoner also received \$18,000 from Natural Resources Canada-Canadian Forest Service for his work on "Budworm Ecology: Dynamics of Spruce Budworm Populations in Isolated White Spruce Stands" and \$20,648 a year for two years from the Ministry of Environment and Energy for an "Evaluation of Parasitoids and Nematodes for Control of Flies."

Profs. Ward Chesworth and Gene Shelp, Land Resource Science, were awarded a total of \$148,000 by CANMET-Department of Natural Resources Canada for their work on "Amelioration of Acid Mine Drainage Utilizing an Incorporated Peat-Wood Waste Admixture." Shelp also received \$2,500 from Lakefield Research for a "Covers Evaluation."

The Ministry of Natural Resources has awarded the following:

■ \$69,000 to Prof. Greg Boland, Environmental Biology, for "Biological Control of Chestnut Blight with Hypovirulence in Southern Ontario";

■ \$140,000 to Prof. Alan Watson, Arboriculture, for the second and third phases of the Ontario Tree Atlas project;

■ \$82,800 to Prof. C. Young Cho, Nutritional Sciences, for "Fish Nutrition Research Related to Aquaculture and Stock Rehabilitation of Ontario Fisheries";

■ \$140,000 to Profs. Narinder Kaushik and Andrew Gordon, Environmental Biology, for "Ecological Research on the Aquatic-Terrestrial Interface at Scott Lake, Algonquin Park"; and

■ \$13,975 to Gordon for "Analysis of Soil Samples for Total Carbon Base Saturation."

OVC's Pet Trust Fund has provided the following support:

■ \$5,500 to Prof. Tony Abrams-Ogg, Clinical Studies, for an "Evaluation of the Oral Hypoglycemic Agent Glyburide in the Treatment of Feline Diabetes Mellitus";

■ \$6,250 to Prof. Charlotte Keller, Clinical Studies, for the project "Presence of Various Growth Factors in Tears of Dogs and Cats with Normal and Diseased Corneas" and \$6,000 to study "The Effect of Ethacrynic Acid Ointment on the Intraocular Pressure of Normal Dogs and Dogs with Glaucoma";

■ \$4,000 to Prof. Allen Binnington, Clinical Studies, for a "Surgical Procedure Simulation Via Three-Dimensional Computer-Aided Reconstruction of Dysplastic Hips"; and

■ \$9,800 to Prof. Jonathan LaMarr, Biomedical Sciences, for "An Alternative Model of Canine Wound Healing." LaMarr has also received \$40,000 a year for three years from the Medical Research Council (MRC) for his work on "Cell-Surface Interactions in Tissue Repair."

Prof. Tammy Bray, Nutritional Sciences, received \$50,000 U.S. from the Juvenile Diabetes Foundation International for "Protection of Antioxidant Nutrients

Against Free Radicals in the Pathogenesis of Diabetes."

Prof. David Wolyn, Horticultural Science, will receive \$20,000 a year for three years from both NSERC's collaborative research and the Canadian Horticultural Council for "Development of All-Male Asparagus Varieties for Canada."

Langford Cyanamid Inc. awarded \$19,868 to Prof. Paula Menzies, Population Medicine, for an "Evaluation of the Efficacy of a *Pasteurella Haemolytica* Experimental Vaccine Against *P. Haemolytica* T10 Challenge."

Profs. George Thurtell and Eric Beauchamp, Land Resource Science, received \$25,087 from DSS-Agriculture and Agri-Food Canada, for a "Study on Nitrous Oxide Productions and Emissions."

Sun Grow and Rohm and Haas each provided Prof. Tom Hsiang, Environmental Biology, with \$24,000 for his project "Resistance to the Demethylation-Inhibiting Fungicides in Ontario Turfgrass Pathogens." He also received \$20,000 from Forestry Canada to study the "Effects of Low-Dose Glyphosate on Trembling Aspen Resistance to Fungal Pathogens."

The Animal Health Trust of Canada has provided:

■ \$3,250 to Prof. Dale Smith, Pathology, for a "Comparison of Cooling and Cryopreservation Techniques for Edward's Pheasant Semen"; and

■ \$2,380 to Prof. Andrew Clarke, Equine Research Centre, for a "Survey of Air Quality and Designs of Ontario Stables and Racetracks" and \$4,650 to study "Airborne Dust and Ammonia Concentrations in a Horse Stable Under Six Different Management Systems."

Prof. Claire Plante, Population Medicine, received \$542,907 from Struthers Research for "The Implementation of Embryo-Transfer Technologies to Propagate and Disseminate Valuable Swine Genetics."

NSERC awarded Prof. Marvin Tung, Food Science, \$35,154 for '94/95 and \$52,082 for '95/96 to '98/99 for "Rheological Studies of Structured Food Systems." NSERC also provided him with \$50,000 in '94 and \$131,555 in '94/95 for his work on "Enhanced Thermal Processes for Shelf-Stable Foods."

Prof. Steven Kruth, Clinical Studies, has received \$20,000 a year for three years from Blake Graham (Crown Foundation Bank) for a "Canine Model for Adenoviral Gene Therapy of Bone and Breast Cancer." The foundation also awarded Prof. Allan King, Biomedical Sciences, \$50,000 a year for three years for his work on "Cytokine Gene Transfer in Canine Neoplasia."

The Canadian Foundation for Dietetic Research awarded \$9,642 to Prof. Judy Sheeshka, Family Studies, for "An Exploration of Food Security Issues Among Members of the CDA."

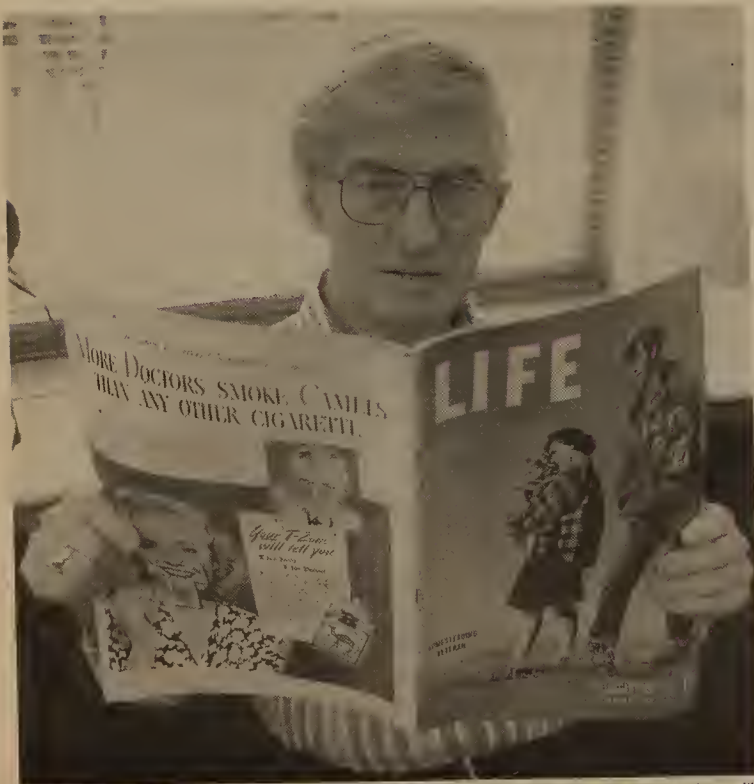
Prof. Doug Larson, Botany, received \$121,000 from Canadian Heritage Parks Canada for a project called "Biophysical of the Niagara Escarpment Within Bruce and Fathom Five." He was also awarded \$45,000 by the Ministry of Environment and Energy to study "3,500 Years of Holocene Climate Fluctuations as Revealed by Tree Rings from Old-Growth Forests of Ontario's Niagara."

First Line Seeds Ltd. awarded Prof. Dave Hume, Crop Science, \$43,600 for an "Evaluation of Soybean Inoculants from MicroBio." He also received \$100,000 from OMAFRA's Food Systems 2002 for a "Comparison of Low-Input, No-Till Conventional and No-Synthetic Cash-Cropping Systems." □

## Clarification

In the Feb. 1 issue of *At Guelph*, the award notice for Prof. Stan Blecher, Molecular Biology and Genetics, should have read that he is receiving \$116,059 a year for three years from NSERC for his project "Non-Invasive Sexing of Bovine Embryos and Sperm." □





Life magazine was one of the first publications to show that communication could be achieved through pictures, says Prof. Tom Tritschler, shown here with a 1947 issue of the magazine.

Photo by Trina Koster, Office of Research

## Pin-ups were a way of Life

by Steve O'Neill  
Office of Research

One of the most famous news magazines ever published may actually have had more "pin-up" than political appeal.

Life magazine, which began publishing in 1937, was heralded as a serious cultural and news vehicle. But Prof. Tom Tritschler, chair of the Department of Fine Art, says the magazine's real impact was due to its powerful — and sometimes risqué — photographs.

"Life was central to making the image the dominant form of communication," says Tritschler, who used to deliver Life when he was growing up in Chicago. "For all of the magazine's attempts to make serious statements in its articles, sometimes the images were so strong, they overpowered or subverted the seriousness of the text."

### Used closeups

Many of the images that came to be most associated in the public's mind with the Second World War, for example, were pictures first published in Life, says Tritschler. Those were also some of the first photos to use closeups to capture the humanity and individuality of the soldiers.

"The pictures did a great deal to comment on the human impact of war," he says. "They convey a real sense of emotion."

Other pictures published in Life, however, undercut rather than supported the seriousness of the magazine's articles. Juxtaposed with sombre editorials were garish advertisements and photos of Hollywood stars.

While conducting his research, Tritschler found an interesting example of why at least some members of the public read Life. He obtained from the University of

Toronto's Robarts Library copies of the magazine that had been on display in the university's browsing room during the 1940s and '50s. The copies were in fairly good condition, except that almost all revealing pictures of actresses and models had been torn out.

"Apparently, male students ripped out the 'girlie' pictures to hang on their walls," says Tritschler. "Despite the high seriousness of the text, it was those images that won out."

He believes this contradicts many cultural historians' contention that the impact of Life on its readers was controlled by the magazine's legendary publisher, Henry Booth Luce. Luce was virulently anti-Communist and used the magazine largely as a propaganda vehicle during the cold war of the 1950s.

"Current writing on Life tends to overemphasize the cold war is-

sue," says Tritschler. "I contend that images published alongside the articles actually subverted the intent of — and made unknowing fun of — the text."

Life declined in popularity with the advent of television and stopped publishing regularly in the 1970s. It now appears only occasionally. Nonetheless, the magazine had lasting cultural effects, says Tritschler.

"Life was one of the first publications to demonstrate that communication could be achieved through pictures. It encouraged recognition of the fact that images can actually produce meaning."

Tritschler presented his findings at the University Art Association of Canada conference in Halifax in November. He will also be presenting this research at a conference devoted exclusively to Life magazine at the University of Colorado next fall. □

## East Coast can't duck this mussel problem

by Lisa Chandler  
Office of Research

East Coast mussel farmers are being plagued by gypsy patrons — feathered ones — that wreak havoc on their valuable stock.

U of G expertise has gone east to study the problem. Zoology professor Tom Nudds and PhD student Diana Hamilton are conducting field work in Passamaquoddy Bay, an inlet of New Brunswick's Bay of Fundy, to help untangle the web of interdependency among common eider ducks, a macro algae called rockweed and blue mussels.

Juvenile eiders feed on invertebrates like periwinkles and other small crustaceans, which live in rockweed; adult eiders often feed on blue mussels. The researchers will be looking at species' interactions in the intertidal zone, the area of the beach exposed at low tide and covered with water at high tide.

"There has been little focus on predation and disturbance experiments involving vertebrate predators, particularly waterfowl," says Hamilton. "We are using a community ecology approach to assess the impacts of predators on disturbed and undisturbed systems."

The researchers are conducting "exclosure" experiments — using large cages to enclose potential prey and protect it from predators — to determine the effects of eider predation on invertebrate species like blue mussels, which are often cultivated for commercial use. "Eiders are a real nuisance for growers of cultivated blue mussels because they prey on them and can devastate a crop," says Hamilton.

One of the study's goals is to determine what sizes of mussels are most often preyed on by the eider. This information will be useful to mussel growers for predicting the stage of development at which their crop is most susceptible to predation.

The researchers are also ma-

nipulating two dozen 24.5-square-metre areas in both rockweed and mussel beds to determine how predation and disturbance interact to influence the relative abundance of species and changes in their relationships.

Using predator-exclosure cages to shelter small invertebrates and other potential prey from the eider, the researchers are comparing protected and unprotected areas to see if predation alters invertebrate abundance and species composition. They're simulating ice scouring (damage to the bay bottom during winter freezing) by removing 90 per cent of the biomass — living organisms such as mussels and periwinkles — in mussel beds.

And finally, they're trimming rockweed to simulate a commercial harvest. Rockweed, which shelters periwinkles and other invertebrates on which the juvenile ducks prey, is prized for its alginate content (alginate is a binding agent used in food such as ice cream and other products). The New Brunswick government is considering allowing such commercial harvesting, something that Nova Scotia has practised for many years. If a commercial harvest does proceed, as much as half of the rockweed biomass of a given area could be removed.

The researchers have placed exclosure cages in harvested and unharvested areas and will compare invertebrate populations in each to determine whether the effects of predation by ducks would be changed by a rockweed harvest.

"Many scientists and environmentalists are concerned about the potential effects a large-scale harvest could have on the whole intertidal community," says Hamilton. "No one really knows what will happen, but studies like this will give us some indication."

This research is funded by the Natural Sciences and Engineering Research Council, the Delta Waterfowl Foundation and the Canadian Wildlife Service. □

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# OUR COMMUNITY

## NOTICES

### English gardens

At the next meeting of the Guelph Historical Society March 7, Nicholas Hill will discuss English country gardens. The meeting begins at 8 p.m. at St. Andrew's Church, 161 Norfolk St.

### Women's scholarship

Guelph Women in Networking is offering a \$1,000 scholarship for female students enrolled in non-traditional postsecondary programs. The deadline for applications is March 15. For an application form, call 742-5881.

### Disability awareness

The Centre for Students with Disabilities is offering a seminar on "Understanding Learning Disabilities... How Difficult Can This Be?" March 13 from 1 to 3 p.m. in Room 441 of the University Centre. Register at Ext. 6208.

### Secretary general sought

The Association of Commonwealth Universities invites applications and nominations for the position of secretary general to assume duties June 1, 1996. Dead-

line is March 31, 1995. For more information, call Dorothy Garland at 0171-387-8572 or fax 0171-383-0368.

### Junior Achievement

Junior Achievement of the Niagara Peninsula wants to get in touch with past participants to build an alumni organization and provide them with information about a 25th-anniversary banquet in May. For information, call 1-800-423-3413.

### New Athabasca president

Dominique Abrioux became the fifth president of Athabasca University this month. Abrioux has been a faculty member at the university since 1978.

### Pruning workshop

Arboretum horticulturist Henry Kock will lead a half-day indoor/outdoor workshop on the art of easy and correct pruning in the home garden March 9 and 18 from 1 to 4 p.m. at the R.J. Hilton Centre. Cost is \$25. Register by March 1 at Ext. 4110. □

## Learning programs target food industry

The Office of Open Learning is offering two professional-development programs for the food industry next week.

On Feb. 27, a pre-workshop symposium called "An Overview of Novel Methods Ensuring Food Safety" will provide opportunities for participants to learn about novel methods for ensuring food safety, to network with one another and to interact with industry suppliers.

The one-day symposium will also feature an exhibit and display area of industry suppliers.

"Rapid Methods for Microbial Analysis," to be held Feb. 28 and March 1 and 2, will provide information about the most recent techniques available for rapidly detecting, enumerating and identifying foodborne micro-organisms.

Topics will include bioluminescence, nucleic acid technology, automated identification systems, immunological methods, plating methodology and methods based

on filtration.

Speakers include U of G faculty and representatives of industry and Agriculture and Agri-Food Canada.

The two programs are being pre-

sented by the Food Industry Education and Training Consortium of Durham College and U of G.

For more information, call the Office of Open Learning at Ext. 3956. □

## OAC seeks nominations for 1995 Hilliard award

The OAC College Alumni Foundation seeks nominations for the T.R. Hilliard Distinguished Agricultural Extension Award for 1995.

Presented annually to an Ontario resident who has made outstanding contributions to agricultural extension in the province, the award consists of a citation and \$1,000 to be used for an extension, research or educational project of the recipient's choice.

Nominees may be employed in agricultural extension by government, agricultural organizations, institutions, industry or U of G.

They may also be producers or other individuals who have made an outstanding voluntary contribution to agricultural extension.

Nominations should be sent to the OAC Alumni Foundation c/o OAC dean Rob McLaughlin by Feb. 28. Nominations should include supporting background information and a brief summary statement prepared and signed by two nominators.

The award is named in memory of the late T.R. Hilliard, a former deputy minister of agriculture and food. □

## CLASSIFIEDS

### FOR RENT

Three-bedroom lakefront cottage, access to snowmobile trails, five minutes from Parry Sound, \$450 a week or \$1,500 a month, 1-905-822-9015.

One-bedroom apartment, 10-minute drive to University, large property, pets welcome, available May 1 for summer sublet or one-year verbal lease, \$350 a month inclusive, 856-2744.

Furnished one-bedroom apartment, private entrance, \$540 a month includes heat, hydro, cable, parking and laundry, non-smoker, good for single person, 763-6556 or Paul at 836-2050.

### FOR SALE

1987 Pontiac Acadian, blue, standard, new alternator, battery, brakes, radiator, good condition, 95,000 km, 763-1483 after 5 p.m.

### FOR SALE

1987 Astro Van, excellent condition, many extras, George, Ext. 8743 or 836-0355.

1985 Nissan Maxima, black, four-door, standard, air conditioning, cruise, sunroof, alarm, AM/FM stereo cassette, certified, 824-5112.

1979 Pontiac Acadian, navy blue, good condition, 837-0807.

Three DOS 386 computers; spare hard drive, 130MB, Joanne, Ext. 3359.

### AVAILABLE

Elderly woman to babysit evenings in her home, 821-5906.

Certified teacher with English degree will help with résumés, cover letters, essay typing, proofreading, editing or tutoring, John, 837-0807.

### AVAILABLE

Free to good home, one-year-old female German shepherd/collie cross, country preferred, good with children, Carmen or Steve, 766-9854.

### WANTED

Two-bedroom cottage for summer season, preferably Lake Huron/Port Elgin area, privacy preferred, reasonable rate, Doug, Ext. 2830.

Furnished house or apartment from May to September 1995, retired couple, non-smokers, Stephanie, 763-0304 or 823-8800, Ext. 4132.

### FOUND

Clip-on earrings found in P26 parking lot Feb. 14, Janet, Ext. 6559.

Watch found on College Avenue, Bill, Ext. 8182.

Classifieds is a free service available to staff, faculty, students and alumni of the University. Items must be submitted in writing by Wednesday at noon to Linda Grehm on Level 4 of the University Centre or fax to 824-7962. For more information, call Ext. 6581.

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# CALENDAR

## THURSDAY, FEB. 23

**Pathology Seminar** - Graduate student Patricia Turner discusses "The Mechanisms of Ulcerogenicity of a Dual NSAID Inhibitor" at 11:10 a.m. in Pathology 2152.

**Concert** - The Department of Music presents a free concert featuring the Arbor Oak Trio with special guest Prof. Mary Cyr on viola da gamba at noon in MacKinnon 107.

**Seminar** - The Department of English is hosting a talk by Gareth Griffiths of the University of Western Australia on "Writing, Text, History" at 2 p.m. in MacKinnon 229.

**Population Medicine Seminar** - "High-Tech Breeding: A Step Forward for Sheep Production or Ivory-Tower Nonsense?" is the topic of Prof. Brian Buckrell at 4 p.m. in OVC 1713.

**Ecosystem Series** - The Tri-Council Eco-Research Chair in Ecosystem Health presents a seminar on the role of integrated weed management in agroecosystem health at 4 p.m. in MacKinnon 031. Guest speakers are Prof. Clarence Swanton and postdoctoral fellow Stephen Murphy, Crop Science.

**Theatre** - The Department of Drama's production of *Girls' Night Out* by Diane Montgomery continues at the Inner Stage until Feb. 25. Performances are at 8 p.m. Tickets are \$8 and are available at the UC box office.

## FRIDAY, FEB. 24

**Seminar** - "Global Danger/Local Hazards: Recent Postcolonial Theory" is the topic of Gareth Griffiths of the University of Western Australia at 10:30 a.m. in MacKinnon 107. The talk is sponsored by the Department of English.

**Nutritional Sciences Seminar** - "Effects of Diet and Carcinogens on Colonic Intracellular Signal Transduction" is the focus of Robert Chapkin of Texas A&M University at 11:10 a.m. in Ani-



The Arbor Oak Trio performs at a noon-hour concert Feb. 23.

mal Science/Nutrition 141.

**Biomedical Sciences Seminar** - Graduate Student Ron Johnson explains "Chondrotoxicity of Quinolones in the Juvenile Rabbit" at 12:10 p.m. in Biomedical Sciences 1642.

**Economics Seminar** - Yongmiao Hong of Cornell University explains "Consistent Testing for Serial Correlation of Unknown Form" at 3:30 p.m. in MacKinnon 132.

## SUNDAY, FEB. 26

**Arboretum** - A walk to learn who lives in the sugar bush and who, besides humans, takes advantage of a sugar maple's flowing sap leaves from the nature centre at 2 p.m.

## TUESDAY, FEB. 28

**Our World** - "Deception in Panama" is the topic at 12:10 p.m. in UC 441.

## SUNDAY, MARCH 5

**Arboretum** - Find out more about the animals that live around us on a walk leaving from the nature centre at 2 p.m.

## MONDAY, MARCH 6

**Sociology and Anthropology**

**Seminar** - Visiting researcher Kussai Haj-Yehia discusses "Perspectives on the Oriental City: Religion and Holy Places in Jerusalem" at 11:10 a.m. in MacKinnon 316.

**Economics Seminar** - Weiqiu Yu of the University of New Brunswick considers "Preferences Recovery: A New Approach to Testing Theories of Choice Under Uncertainty" at noon in MacKinnon 132.

**Learning Resource Centre** - A seminar for international students on "Working With Verb Tenses" begins at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC Level 3.

## TUESDAY, MARCH 7

**Nutritional Sciences Seminar** - Melinda Gooderham considers "The Effects of Soy Protein Containing Isoflavones on Various Heart Disease Risk Factors" at 11:10 a.m. in Animal Science/Nutrition 141.

**Our World** - "Impressions and Experiences of International Students in Guelph" is the topic at 12:10 p.m. in UC 334.

## WEDNESDAY, MARCH 8

**International Development Series** - Prof. Brian Woodrow, Department of Political Studies, discusses "GATT and UNCTAD: A Tale of Two International Organizations Serving Development" at 12:10 p.m. in MacKinnon 316.

## WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thornbrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

The Woman to Woman Choir is featured Feb. 26 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road. Everyone is welcome. □



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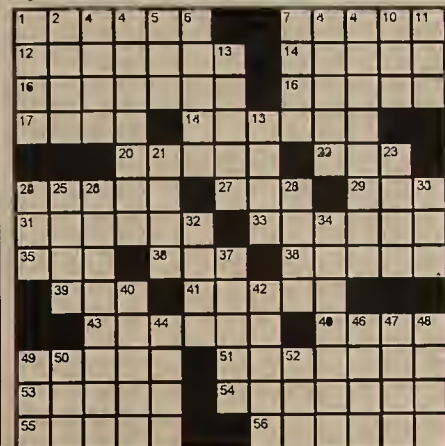
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### ACROSS

1. Conversation
7. More than adequate
12. Entreats under oath
14. Nasal passages
15. Home of the Manners
16. Soldiers collectively
17. Tortoise's rival
18. Without any question
20. East Indies drink
22. Drink slowly
24. "Alice" star
27. Served as a model
29. Accelerator
31. Introduce
33. Scrivener
35. "Tonight Show" host
36. Dawn goddess
38. Veil material
39. Fairy queen
41. Something to be saved
43. Man for hire
45. Constant teasing desire
49. Goddess of peace
51. Effacement
53. Cheek cosmetic

### DOWN

54. Bluejacket
55. Buenos
56. Rented
25. Ancient Syria
26. Canadian boatman
28. In (totally)
30. Author Bill
32. Migratory worker
34. African country
37. Witch city
40. Spree
42. Pink color
44. Bee (rock group)
46. Wine casks
47. Manitoba Indian
48. Move animals together
49. A Gershwin
50. King: Fr.
52. Metric measure

**For crossword solution, see page 2.**

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# She's head over heels!

## Human kinetics student flips for freestyle

by Kerith Waddington  
University Communications

The freestyle-skiing career of first-year human kinetics student Veronica Brenner is really taking off.

After placing fourth in aerials at a world cup competition in January, Brenner is currently following the circuit as a member of the Canadian National Team.

Aerials — a series of complicated twists and turns performed on takeoff from a jump — form just one part of freestyle skiing, along with ballet and moguls. Aerial skiers are in the air for only about three to four seconds, but can reach heights of up to 30 to 40 feet.

Although it's been a sport since the late 1960s, it was just inaugurated into the Olympics last year and is growing in popularity.

What drew Brenner into the sport? "I used to take ballet, and I love the outdoors in winter," she says. "Aerials are the best of both worlds."

She attributes some of her current success to earlier off-season training on campus that included

diving, trampoline and weight training.

As for Brenner's academic life, it leaps towards the sporadic. She's expected back on campus for the spring semester, but is planning to head off again for summer training at Lake Louise. Still, she's confident of achieving her scholastic goals — a degree and future work in the field of sports science — thanks to course accommodations U of G is willing to make.

"Guelph is the only university that welcomes athletes with open arms and is willing to try and make adjustments to their special needs," she says. "This sport entails that much of my time is spent away from home base, making these accommodations imperative."

Prof. Fred Ramprashad, academic assistant to the dean of CBS, is a facilitator on campus for elite national athletes and their required academic needs. He has worked closely with Brenner to establish her scholastic program.

Ramprashad believes that although faculty have to make many



Veronica Brenner shows off the form that earned her a fourth-place spot in aerials at a world cup competition last month.  
Photo by Ian Tomlinson

adjustments to accommodate such students, these efforts are ultimately worthwhile.

"The entire Guelph community benefits from the association of high-calibre athletes with this university," he says. "And as

Veronica is also an outstanding student, the objectives of the University of Guelph to promote educational excellence are in no way compromised."

With the Olympics as her athletic goal, Brenner was encour-

aged by her fourth-place finish last month.

"I was surprised, but it felt great to know that I could be competitive although not quite as experienced as some of the other girls." □



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## RETIREMENTS

The following members of the University community have recently retired:

- Jim Tsujita, Horticultural Science;
- Harvey Maurer, Research Station Services;
- Robert Hillson, Security Services;
- Bruce Stone, OAC dean's office;
- Michael Wilson, Population Medicine;
- Kaye Wells, Guglielmina Polo and Phyllis Crampton, House-keeping;
- Richard Vosburgh, Consumer Studies;
- Lloyd Ross, Counselling and Student Resource Centre;
- Bonnie Miller, Computing and Information Science;
- Flora Francis and Margaret Williams, U of G Library;
- David Davies, Physical Resources;
- Ted Burnside, Peter Fergus and Muriel Tolton, Animal and Poultry Science;
- Ted Hadwen, Sociology and Anthropology;
- Paul Pennock, Clinical Studies;
- Dave Stanley, Food Science;
- Daniel Yu, Crop Science;
- P.K. Basur, Biomedical Sciences; and
- Ron Jay, Veterinary Teaching Hospital. □

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## FIRST GLANCE

### Senate seeks nominations

Senate's Bylaws and Membership Committee is calling for nominations of faculty and students to sit on Senate committees for the 1995/96 academic year. Nominations of non-senators are encouraged. Nominations must be received in the Senate office by March 10. The mandates of Senate committees can be found on GRIFF. For more information, call Ext. 6760 or 6758.

### NSERC workshop set

A workshop on the Natural Sciences and Engineering Research Council's strategic grants program will be held March 7 from 3:10 to 5 p.m. in Room 1713 of the OVC Learning Centre. Discussion will focus on the major differences between the strategic program and the standard research grants and collaborative grants program. Faculty and graduate students are encouraged to attend. For more information, call the Office of Research at Ext. 6931.

### Inside:

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### Thought for the week

*The great end of life is not knowledge but action.*

Thomas Fuller



### A ballooning interest in art

Local artist Greg Elliott puts the finishing touches on a mural at the University of Guelph Child-Care Centre. Donating his

services as part of the centre's fifth-year anniversary celebrations, Elliott used nature to integrate loosely defined concepts of the

family into his mural in the hopes of encouraging inclusiveness.

Photo by Keith Waddington

## Policy to guide action on research misconduct

A policy to guide U of G in dealing with allegations of misconduct in research and scholarship was endorsed by Senate Feb. 21.

"Misconduct in Research and Scholarship: Policy and Procedures" was drafted by the Research Board following extensive campus-wide consultation and an initial Senate discussion last April. It includes a commitment to open hearings.

It is expected to be implemented before a June deadline imposed by the three federal granting councils. Universities must have guidelines in place by then to remain eligible for research funding.

The policy is especially timely in light of recent public concerns about academic research following misconduct cases at Concordia University, the University of Calgary and Saint Luke Hospital in Montreal.

Prof. Janet Wood, Department of Microbiology, who presented the policy to Senate on behalf of the Research Board, noted that it does not apply to allegations of student misconduct. Such cases would fall under the academic

misconduct policy, she said.

The Research Board will work with the Board of Graduate Studies (BGS) to promote the new rules. The Office of Research will co-ordinate the development of an information module for University administrators on the investi-

gation of research misconduct, implementation of the policy and the relationship of the policy and others concerning ethical behavior.

An annual report on the number of formal research misconduct allegations and how these cases

were dealt with will go to Senate for information each year.

The new guidelines will be printed in *At Guelph* after they have gone to Board of Governors for approval.

See MAJOR on page 2

## University libraries link resources to control costs, increase access

U of G, the University of Waterloo and Wilfrid Laurier signed an agreement Feb. 22 to work towards integrating their library collections and services. (See related photo on page 3.)

The goal is to control costs and to give users at each university access to the more than seven million items in the three collections. Special emphasis will be put on enhancing and co-ordinating access to electronic information.

"We've made a serious commitment to working together that I believe will be very beneficial to the three university communities," says U of G's acting chief librarian, Ron MacKinnon. "We can do much more together than individually."

The agreement calls for task groups to:

- investigate rationalizing collections, first for graduate programs jointly administered by the uni-

versities and then more broadly;

- plan and implement policies to enable access to the collections of all three institutions through interlibrary loans and electronic document delivery; and
- develop integrated access to electronic resources, including CD-ROM databases.

The three universities have agreed to move towards adopting compatible automated library systems.

Plans also call for acquiring or building a jointly owned storage facility that would house less frequently used materials. On request, an item would be delivered to any of the participating campuses in one day.

In December, a presidential working group was established to study the opportunities for — and the benefits of — greater collaboration among the three universities. □



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## Farcus

by David Weinglass  
Gordon Courtland

# Major award winners to be honored at convocation

Continued from page 1

An Executive Committee plan to change the way U of G honors top graduating students was also endorsed by senators.

Beginning with June convocation, major medal winners will be honored at the appropriate ceremony, and a citation will be read. This is an effort to establish the importance of the awards and allow the recipients to be recognized by their peers and the faculty in their program.

The winners and their guests will also be invited to attend the convocation luncheon at the president's house. Chief administrative officers will then have an opportunity to offer congratulations in a personal setting.

The annual June Senate/B of G dinner, where award recipients were presented with their awards and B of G and Senate members had a chance to meet, will no longer be held. Instead, a wine-and-cheese reception for B of G and Senate will be held early in the fall, preceded by a one-hour orientation session for new senators.

## SPC report

SPC chair Prof. Bev Kay, Land Resource Science, informed Senate that the interim report of the Strategic-Planning Commission is expected to be made public March 8 in *At Guelph*. The release of the report will be followed by four weeks of community consultation, including two special Senate meetings tentatively scheduled for March 28 and April 4. (Watch *At Guelph* next week for details.)

## Budget time

President Mordechai Rozanski told Senate that he's optimistic about the University's internal discussions on the 1995/96 operating budget, subject to what happens at the federal and provincial levels.

Two members of the Senate Committee on University Planning (SCUP)—Prof. John Barta, Pathology, and Louis Christofides, Political Studies—have joined the President's Budget Advisory Group in an effort to better involve SCUP in the preliminary stages of budget preparation.

The goal is to have the budget go forward to SCUP for considera-

tion in late March, then on to Senate for information and comment at its April 18 meeting. The proposed budget would go to B of G for approval April 20.

## Academic athletes

Rozanski praised the women's hockey team, which wrapped up a successful season by clinching the OWIAA championship against the University of Toronto. This was the first win of the championship title since 1973/74. He also congratulated the men's basketball team and drew Senate's attention to the academic excellence of the teams.

## Membership changes

Membership regulations of the Senate Committee on Open Learning (SCOL) have been revised to stipulate that the seven faculty appointed by Senate on the committee will be college representatives and that there will be one open learner and one undergraduate student instead of two open learners. The faculty members are Prof. Doug Goff, representing OAC; Chandler Kirwin, College of Arts; Jim Mottin, College of Social Science; John Patterson, FACS; Jack Weiner, CPES; Jill McCutcheon, OVC; and Usher Posluszny, CBS.

Senate's representatives on the selection committee for a new research vice-president will be Profs. Diana Brydon, English; Michael Hoy, Economics; and Pat Shewen, Veterinary Microbiology and Immunology; and CBS graduate student Karen Isles.

For the first time, a faculty alternate has been appointed for the selection committee. Prof. David Swayne, Computing and Information Science, will attend meetings of the committee without voting privileges and will step in as a full member if required.

On the selection committee for provost and vice-president (academic), OVC dean Alan Iain Campbell will replace CPES dean Iain Campbell, who has resigned.

The Senate Committee on International Activities is to be replaced by a Senate International Committee (SIC). SIC's mandate has been expanded to include sharing international responsibilities with the Board of Undergraduate Studies, BGS, SCOL and the Senate Committee on Student Development (SCSD), effective this fall. Bylaws for SIC were also established.

## Fewer reports

There will be changes to how committee reports come to Senate. The goal is to reduce the number of reports dealing with routine matters going to Senate, so it will have more time to debate strategic and philosophical issues.

As a first step, Senate voted to revise BGS regulations to delegate the responsibility for course additions and deletions to BGS. A summary of these changes will be reported to Senate four times a year for information.

Senators also agreed to change Senate Awards Committee (SAC) bylaws to delegate the responsibility for approving the terms and conditions of new awards to SAC. This aims to reduce the amount of time between when a donor gives a gift and when Senate approves the award. A summary of changes will go to Senate for information in April and be posted on GRIFF a week before SAC meets.

SCSD's annual report to Senate from Teaching Support Services will be placed on GRIFF, and a one-page summary will be attached to a Senate agenda.

## Visa scholarships

Senate also approved a BGS and SAC proposal to enhance the university graduate visa student scholarships and the Ontario differential tuition waiver program.

Some 20 to 22 international students entering a graduate program this fall will be awarded the usual differential tuition waiver plus a scholarship that will cover the balance of tuition costs. Academic departments need only provide \$13,000 in support per year to fund these students, compared with the \$16,000 to \$17,000 predicted for 1995/96.

Another \$1,000 will be provided from this program to current award holders who are more than two semesters away from degree completion. This is to offset rising living, travel, health and tuition costs.

No increase in base funding is needed to enhance these awards for at least two years because there will be a slight reduction in the number of awards granted. The University views this as an interim measure until the provincial and federal tuition decisions and trends are known.

## CIP annual report

Senate accepted the annual report of the Centre for International Programs (Watch an upcoming international page in *At Guelph* for a summary.) □

## Obituary

Laurie Plancke, an MA student in the Department of Political Studies, was killed Feb. 13 in a motorcycle accident while on vacation in Thailand. A 1989 BA graduate of Guelph, she was employed by the Ontario Ministry of Consumer and Commercial Relations in Toronto and was expected to complete her master's degree this spring. □

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## PEOPLE

Professor emeritus **Don Barnum**, Veterinary Microbiology and Immunology, was recently recognized by the American Society for Microbiology for 50 years of continuous membership in the society.

Len Ritter, executive director of the Canadian Network of Toxicology Centres, is participating in the "International Experts Meeting on Persistent Organic Pollutants: Towards Global Action" in Vancouver this month. He has also been asked to join the Ministers' Expert Advisory Panel for developing the second priority substances list.



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### Libraries forge links

Representatives of U of G, the University of Waterloo and Wilfrid Laurier gather to sign an agreement to integrate library collections and services. (See story on page 1.) Standing, from left, are Wilfrid Laurier president Loma Marsden and university librarian and archivist Virginia Gillham, Waterloo chief librarian Murray Shepherd and academic vice-president and provost Jim Kalbfleisch, U of G president Mordechai Rozanski and Wilfrid Laurier academic vice-president Rowland Smith. Seated is Ron MacKinnon, U of G's acting chief librarian.

Photo by Jim Hertle

## Unrealistic standards alienate women from their own bodies

by Jo-ella van Duren  
Office of Research

Women have become alienated from their own bodies because of unrealistic standards set in advertising, the media and even Disney movies, say U of G researchers.

Graduate student Nicole Molnar and her supervisor, Prof. Gail Grant, Sociology and Anthropology, are studying why women have so much trouble accepting their bodies and why that causes them to diet or develop eating disorders. Molnar says the media are one source of the problem.

"In everything from Walt Disney movies to the runways of Paris, there is only one style of beautiful female — tall and gaunt — and that body type represents only about five per cent of the female population," she says. "The other 95 per cent almost never see themselves in the media or receive the kind of widespread acceptance of their body type that would allow them to be comfort-

able with their own bodies."

Molnar says the net effect of this is that women become alienated from their bodies. They begin to scrutinize others' body parts — envying the legs of one model and the lips of another — rather than perceive themselves as a whole. Because of this, many women can't take pleasure in their own bodies or don't consider themselves sexually attractive, she says.

Another source of the problem seems to be social conditioning, says Molnar, who has concluded that woman aren't "supposed" to be content with themselves. "There isn't much support for women to say 'I like me.' Modestly turning down a compliment about your appearance is standard practice."

So is dieting. Most adolescent females have dieting family members or female role models, which fosters a preoccupation with weight from a young age.

Molnar says the social problem

is growing worse and is beginning to include men as well as women. Her current research suggests that steroid abuse among adolescent males is increasing, as they try to achieve more muscled and lean figures. Men are also increasingly using cosmetics such as hair dyes and undergoing cosmetic surgery.

Her concern with young people's lack of self-acceptance has compelled Molnar to give lectures entitled "Redefining Beautiful" in Waterloo and Wellington county high schools. There, she talks about her own experience with bulimia to help make adolescents aware of the forces that might contribute to a lack of personal self-acceptance.

"I just want to make students think twice before they start their next diet and to understand how our definitions of beauty are limited by things like the media," she says. "I hope I can help more people feel good about themselves as they are." □

## NATO must still guard against Russia, says defence expert

by Kersti Kahar  
Office of Research

The Chechnya crisis underlines how Russia is still a threat to former east bloc countries and the need for NATO to beef up its security against it, says a U of G defence expert.

Prof. Gunnar Boehnert, History, says the "anchors of security" in east central Europe — Poland and Romania — should be the focus of Western defence support.

Boehnert — who periodically appears before the NATO policy branch of the Office of the U.S. Joint Chief of Staffs to discuss European defence needs — says NATO should expand eastward to make the former east bloc more secure.

"The threat to Europe from Russia is no longer one of armed invasion, but of a tremendous political, economic and social instability, which can spill over the borders into Poland and other east central European countries," he says.

The collapse of Communism in 1991 and the subsequent disintegration of the Warsaw Pact between east bloc countries prompted a re-evaluation of defence needs in Europe, particularly east central Europe. Boehnert says the major factor jeopardizing the security of those countries is the ever-unpredictable Russia.

### Breeding ground

The volatile domestic situation in Russia provides a fertile breeding ground for a dictator to rise to power, a scenario that Boehnert says would aggravate matters. He points to the Chechnya crisis as symptomatic of the worsening situation.

Russia's pillaging of Chechnya also raises questions about Western aid. President Boris Yeltsin has requested \$12 billion from the West to prop up his vision for the "new" Russia, but Boehnert believes that leads to a Catch-22 situation for Western countries.

"The Russians are violating human rights on a scale that cannot be ignored. Yet they expect us to contribute the money they need to

stabilize their country."

Western leaders have already recognized that to preserve the stability of Europe as a whole, it is imperative to include Poland, Hungary, the Czech Republic, Slovakia and Romania in a Western-led treaty, says Boehnert.

In January 1994, U.S. President Bill Clinton introduced the Partnership For Peace (PFP) plan, which would draw the former Warsaw Pact nations into NATO. These nations are to submit proposals to a specially appointed coordinating council in Brussels, outlining what a military union between East and West would entail.

### Defence strategy

Boehnert was instrumental in helping Poland draft its PFP proposal. A military historian, he has devoted nearly 20 years of his academic career to research in defence strategy as it has related to NATO and the Warsaw Pact. He is also a director of the Atlantic Council of Canada, a NATO affiliate.

He has been working closely with Polish defence officials since 1991, when he delivered a major paper at the ninth annual conference of the Polish Political Science Association. Currently, his assessment of the potentially destabilizing impact of Russia on east central Europe is being used as a discussion paper by the Polish Foreign Ministry.

Boehnert is also an expert on Romanian defence needs and has addressed the U.S. Senate Foreign Relations Committee on Romania's defence situation.

"Romania is geographically crucial in east central Europe," he says. "In time, its membership in NATO may be desirable."

In March, Boehnert will deliver another paper on Russian foreign policy at a security conference in Vienna. Following that, he will visit Washington to discuss the situation in east central Europe with the Senate Foreign Relations Committee and the Office of the Joint Chiefs of Staff. He then plans another extended stay in Poland. □

## Lower stationery costs expected with new supplier and contract

The cost of stationery purchased by U of G is expected to be reduced by eight per cent with last month's introduction of a new supplier and contract.

Basics Office Products of Waterloo — a full-range supplier that carries all brand-name products as well as furniture and office equipment — took over from Guymark/Mr. Stationer when the existing contract expired. The change of hands resulted from a tendering process undertaken by Central Purchasing as a member of the Guelph Co-operative Purchasing Group (GCPG).

GCPG is a consortium of local public-sector agencies that was formed about 12 years ago to engage in co-operative purchasing. The group's goal is to reduce or stabilize the cost of common items used by member agencies, says Lynn Drohan, supervisor of

Central Purchasing.

Drohan believes the change in suppliers will be a positive one and that community stationery needs will be well satisfied. "Top-notch service, quality products, prompt delivery and competitive pricing are the hallmark of a good supply contract," he says. "I believe this is what the University now has with Basics Office Products."

Prices established on the more than 2,000 stationery items that U of G buys will undergo annual reassessment during the three-year contract. The contract will be operated under the systems-contract method of ordering.

For more information about the new contract, call Drohan at Ext. 2139 or Mary Mollison at Ext. 2541. □

## Beech tree to be moved

A European beech in the triangle-shaped island bed at the southwest corner of the University Centre has to be moved about 50 feet southwest of its current location because of the construction of a utilities tunnel for aquatic science buildings on Christie Lane, says John Reinhard of Grounds. The tree will be integrated into the landscape plan for the conservatory greenhouse.

Because of the tree's size and sensitivity to transplanting, extra measures will be taken to maximize its chances of survival, says Reinhard. Instead of using a large tree spade, Grounds staff will use the frozen ball and burlap method.

"Although this requires more time and effort, it will allow for a larger root ball and increase the chance of a successful transplant," he says.

Meanwhile, the City of Guelph's Recreation and Parks Department is planning to remove one of the large white ash trees at the southeast corner of the Macdonald Stewart Art Centre.

The tree has anthracnose and has been declining for several years, says Allan Berberich of Recreation and Parks. During its decline, several other trees have been planted adjacent to it, he says.

For more information, call Berberich at 837-5626. □



## Loon deaths linked to lead poisoning

by Margaret Boyd  
University Communications

In Ontario, lead poisoning from fishing weights and sinkers is a primary and preventable cause of loon and other waterfowl mortalities, says Prof. Vernon Thomas, Zoology.

Greater public awareness is needed of the risks that lead poses to waterfowl and the environment, says Thomas, who has studied the issue for four years. He notes that lead is one of the most persistent substances on Earth and that reports of lead poisoning of waterfowl go back 150 years.

"Lead is like AIDS — it's forever," he says. "It stays in the environment literally for centuries."

### Investigations double

Investigations of loon deaths have doubled over the past 18 months, says Prof. Ian Barker, Pathology, co-ordinator of the Ontario branch of the Canadian Co-operative Wildlife Centre (CCWC) at Guelph. One-quarter of all loon deaths analysed by the Guelph CCWC are the result of lead poisoning.

Human contact is the most common cause of all investigated loon deaths in addition to lead poisoning, says Barker. The birds become tangled in nets or are hit by motorboats, or they are victims of

mercury poisoning. Mercury poisoning can be caused by human and natural phenomena; mercury is a persistent byproduct of pulp mills in the past or it leaches out of rock, he says. In addition, loons are declining in number in Ontario because of habitat destruction.

Loons, the top predators of the water-bird food chain, pick up lead from eating fish attached to hooks and sinkers or by mistaking sinkers for stones. The lead dissolves in the bird's acidic stomach and poisons it. Loons, herons, mergansers, swans, cormorants and even some gulls are affected.

Environmentally, Canada lags behind the United States on the lead issue. Four years ago, the States banned lead shot for hunting waterfowl, and the U.S. Environmental Protection Agency (EPA) has proposed banning the use of lead fishing weights. In Canada, there are no bans on lead fishing weights or sinkers, although regional bans exist for lead shotgun pellets.

The lead issue has interboundary repercussions because lead sinkers may be transported in migrating loons from Canada to the States, says Thomas, who recently testified before the EPA in Washington, D.C., on behalf of the North American Loon Fund. In the northeastern United States, lead poisoning from fishing sink-

ers is associated with more than 40 percent of loon mortalities.

"It is an unnecessary form of environmental toxin that should be removed," says Thomas, who notes that affordable non-toxic alternatives to lead exist. Fishing sinkers and weights made from bismuth are manufactured and available in Canada; alternatives can also be made from tungsten, ceramics and glass mixed with tungsten.

### Legislative change

Merilyn Twiss, a biologist with the Ontario Ministry of Natural Resources, is working on a master's degree with Thomas and is addressing policy and legislative amendments required to make Ontario a lead-free fishing environment. The ministry is supporting this work, and the Ontario government will use her thesis as the basis for decision making and legislative change regarding the use of lead for fishing purposes.

"We shouldn't wait until loons are endangered before we do something," says Twiss, who notes that the birds are now endangered in several American states.

Thomas calls the lead issue "a philosophical problem," pointing out that lead has been banned when it affects humans, such as in gasoline and paint. But when it comes to wildlife, humans have "an innate capacity for self-deception," he says.

"We need public awareness, but we also need action taken by the government on our behalf," he says.



An employee of the Ontario Ministry of Natural Resources rescues a loon suffering from lead poisoning near North Bay. The loon later died.

Information on all wildlife mortalities in Ontario is collected by the Guelph office and fed into a database at the centre's headquarters in Saskatoon. The goal of the centre is to obtain information on the distribution and prevalence of wildlife disease problems. In several years, a book outlining this

information will be published, says Barker.

He and staff pathologist Douglas Campbell are responsible for investigating wildlife mortalities in Ontario; they rely on a broad network of services and individuals throughout the province to track information. □

## GRAD NEWS

The final oral examination of M.Sc. candidate Paul Ricciatti, Veterinary Microbiology and Immunology, is March 2 at 1:30 p.m. in Room 101 of VMI. The thesis is "The Expression of Antigens of *Actinobacillus Pleuropneumoniae* in Artificial Media and Development of an Improved Bacterin." His adviser is Prof. Janet MacInnes.

The final oral examination of Victoria Espaldon, a PhD candidate in the Department of Geography, is March 6 at 10:10 a.m. in Room 234 of the Hutt Building. The thesis is "Deforestation in the Philippines: Human/Ecological Process in Tropical Uplands." Her adviser is Prof. Barry Smit.

The final oral examination of Richard Kraan, an M.Sc. candidate in the Department of Consumer Studies, is March 7 at 1 p.m. in Room 301 of the HAFB Building. The thesis is "Comparison of Disk-by-Mail and Paper-

and-Pencil Modes of Data Collection." The adviser is Prof. Tom Funk.

The final examination of PhD candidate Silas Kajuna, School of Engineering, is March 8 at 10 a.m. in Room 101 of the Crop Science Building. The thesis is "Visco-Elastic and Physico-Mechanical Properties of Bananas and Plantains by Quasi-Static and Dynamic Methods." The adviser is Prof. Walter Bilanski.

The final oral examination of Thomas Waddell, a PhD candidate in the Department of Veterinary Microbiology and Immunology, is March 10 at 2 p.m. in Room 101 of VMI. The thesis is "Studies on the Absorption and Targeting of Verotoxin 2c in Figs." His adviser is Prof. Carlton Gyles.

Interested members of the University community are invited to attend. □

## Canadian food among world's safest

by Leigh Funston  
Office of Research

When Canadians sit down to dinner, they can rest assured that the food on their plate is among the world's safest.

Ottawa's annual report on chemical and biological testing of agri-food commodities released in the fall shows that more than 99 per cent of the 275,000 domestic food samples and 98 per cent of the 36,000 imported samples tested last year complied with Canadian safety standards.

The sampling assessed type, incidence and level of chemical residues, food additives, microbiological contamination and industrial contaminants in all agri-food commodities.

"The message is consistent every year — the Canadian food supply is extremely safe," says Prof. Gord Surgeoner, Environmental Biology. "In fact, random sampling for hundreds of different products has shown that Agriculture and Agri-Food Canada takes its mandate of reducing the risks for Canadians very seriously."

The federal report says that no residues whatsoever were found in 76 per cent of the food products tested. Almost all of the remaining 24 per cent were well below legal tolerance levels.

Inspectors take samples of everything Canadians eat — meat, eggs, milk, fruit, vegetables — both domestic and imported from retailers, wholesalers, assembly plants and warehouses.

The tolerance levels or maximum residue limits (MRLs) es-

tablished by Health and Welfare Canada are among the strictest in the world. The MRLs are safe maximum residue limits based on daily consumption over a person's lifetime with hundred-fold safety factors added for extra protection. Methods used to analyse levels of contaminants can measure concentrations well below the threshold of any health concern.

Imported foods are subjected to equally stringent guidelines. Products entering Canada can undergo two tests — one at their country of origin under an approved foreign system and one in Canada.

Chemical or biological residues present in food commodities after inspection either result from recommended Canadian agricultural

practices or are naturally present in the environment.

"In a global market that demands absolute esthetic quality, pesticides, for instance, are often needed to ensure products look as good as possible, reducing blemishes caused by insects," says Surgeoner. "Agriculture and Agri-Food Canada ensures that food can both look good and be safe."

By far, most problems that occur with unsafe food are the result of improper handling, storage or preparation at home, resulting in microbial buildup. Surgeoner says that proper refrigeration and cooking are imperative precautionary measures to safeguard against microbial contamination. □

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# What message?

*Everyone can benefit from a better understanding of memory and recall*

by Shawn Chirrey  
Office of Research

Imagine an advertisement that grabs your attention and helps you retain its message without involving a multi-million-dollar sports figure, loud music and repeated appearances.

Impossible? Is an in-your-face, repetitious media barrage inevitable in the 1990s? Maybe not, says Prof. Karen Finlay, Consumer Studies. She's involved in a four-stage computer-modelled study of various communication devices designed to enhance memory and information recall. This builds on her previous research to identify alternative communication strategies.

Two of the questions she hopes to answer are: How can we get people to remember more from communications and what are the mechanisms by which they are encoded and stored in their memory?

"Alternative strategies may be more effective than traditional strategies pursued by communicators, in terms of remembering more information and improving product evaluations by consumers," she says.

Finlay speaks as a survivor of advertising wars, having spent eight years as a vice-president and account director of an advertising agency in the 1980s. She notes that ad executives and consultants

consider this process more of an artistic endeavor than an academic pursuit.

"That's an odd attitude," she says. "There are obviously some underlying mechanisms of memory that can and need to be studied and observed systematically."

She's already made significant advances. She's found, for example, that consumers report more positive brand information when product messages have inconsistencies. Ironically, however, these blips don't negatively affect consumer evaluations of the products. "This use of incongruent information needs to be explored more to see if it can simultaneously increase memory of and improve the evaluation of a communication."

Other factors involved in promoting memory retention in consumers include the use of multiple product characteristics and expectations, says Finlay.

"When an ad tells you that a carry-on bag is 'convenient to carry,' 'sturdy' and 'easy to pack,' we tend to remember more product features relative to those characteristics, because we as viewers attempt to organize information when it's stored and connect these points together in our minds."

Her research is looking at:

- the characteristics of the message in terms of strength of created expectations of a product;



Prof. Karen Finlay is looking for alternatives to advertising that keeps going . . . and going . . . and going.

Photo by Tina Koster, Office of Research

- the source of the characteristics (the perceived expertise of the communicator); and

- factors related to the environment in which the communication was received, such as the motivation to process and retrieve the information and the cognitive style of the receiver.

In addition to the private sector,

this research will be useful for public-service advertising such as government notices for public health and safety issues, says Finlay. She has already contributed in this area by working on projects involving alcohol warning labels and fetal alcohol syndrome.

"This information is sure to have

a wide array of implications and practical applications," she says. "It will be more cost-efficient for the government and smaller companies because they won't have to advertise as frequently to get their message across to the public."

This research is supported by the Social Sciences and Humanities Research Council. □

## Vets set sights on revolutionizing pig industry with ET

by Steve O'Neill  
Office of Research

Embryo transfer (ET) has helped revolutionize the cattle industry. Now, U of G researchers have their sights set on a similar revolution for pig breeders.

A team led by Profs. Claire Plante and John Pollard, Population Medicine, is working on new ET techniques for pigs.

"Historically, embryo transfer hasn't been as successful in pigs, whose reproductive anatomy is less accessible than that of cows," says Plante. "Improved methods could offer the industry real advantages."

Pigs pose several difficulties for ET breeders. First, they have a gestation period of just under four months (as opposed to nine months in cows) and typically produce more than 20 eggs, compared with the cow's single egg. That gives breeders a shorter time to work and a larger number of embryos to transfer. In addition, pigs' smaller size and more complex internal physiology mean that transfer must be done surgically (ET in cows is performed non-surgically).

An additional problem, says Plante, is that the high lipid makeup of porcine embryos makes them the only domestic animal embryos that can't be frozen. That means embryos must be transferred almost immediately after they're taken from the donor sow. In contrast, cow embryos can be frozen for years and still be viable.

Plante and Pollard are receiving

support from Struthers Research of Cambridge, Ont., which plans to expand its pig export business. The company recently lost most of its pig herd in a fire; the researchers are trying to help rebuild the herd.

"The herd now consists of 60 pigs," says Plante. "We want to increase that number to 600 by the end of this year."

To achieve that, Plante and Pollard's team — including Prof.

Stanley Leibo, Biomedical Sciences, and Profs. Walter Johnson and Brian Buckrell, Population Medicine — are recovering embryos from purebred donor pigs and surgically implanting them in mixed-breed recipients (the cattle industry takes a similar approach, implanting embryos into recipient cows).

After recovery, the donors produce more eggs, and the process can be repeated a number of times.

That allows breeders to build a purebred stock using non-purebred recipients.

The team's already had its first success. A recipient pig recently bore 14 healthy piglets, showing an implant adherence rate of more than 50 per cent.

That's good news for the researchers. Once they reach their goal of a 600-strong herd for Struthers, they'll spend the rest of the three-year project trying to im-

plement some of the innovations they've previously worked to develop. For one, they want to develop non-surgical transfer methods. The first step towards that will be performing transfer using a laproscopic telescope, a non-traumatic microsurgical instrument that shortens transfer time to five minutes.

Further in the future, Plante hopes that a better understanding of pig physiology will result in a "trans-cervical" methodology such as is used in cattle embryo transfer.

Another goal of the researchers is to improve embryo shipping methods. Currently, shipping is difficult because pig embryos are extremely sensitive to temperature change. Plante and Pollard are working to define optimum shipping temperatures and modify the medium embryos are shipped in.

The researchers also want to conduct more research into fertilizing pig embryos in vitro and to develop a reliable freezing method, both of which have been successfully done for cattle ET.

"Embryo transfer could really become much more important in the pig-breeding industry," says Plante. "This project is a very exciting example of a clinical/industry partnership in which so-called basic research is immediately applied."

This project has received support of \$582,000 from Struthers and the National Research Council. □



By the end of the year, Prof. Claire Plante and colleagues hope to multiply the size of a Cambridge pig herd by 10 using embryo transfer.

Photo by Margaret Auchterlonie, OVC Media Centre



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## NOTICES

### Plant genetics

A mini-symposium and poster session on plant genetics will be held March 3 in the University Centre. Guest speakers are Lynn Zimmerman of the University of Maryland, Greg Martin of Purdue and Xingwang Deng of Yale. The talks run from 9 a.m. to 12:20 p.m. in Room 103. The poster session is from 2 to 3:30 p.m. in Room 442. Anyone interested in meeting the speakers should call Prof. Dave Wolyn, Horticultural Science, Ext. 3092.

### Horse seminar

The Equine Research Centre is offering a performance horse seminar March 25 at the Royal Canadian Legion. Cost is \$69 and includes lunch and a copy of the proceedings. Registration is required. Call 837-0061 for more details.

### Wild bird display

OVC's Wild Bird Clinic is hosting a display at Stone Road Mall March 3 from 5:30 to 9:30 p.m. and March 4 from 9:30 a.m. to 9:30 p.m. Included in the display will be a bald eagle, red-tailed

hawks and a peregrine falcon. Information about a new bird-adoption program will also be available. For more details, call Doug Grier at Ext. 4573.

### Writing contest

The Eden Mills Writers' Festival is hosting its seventh annual writing contest, open to all unpublished or modestly published authors. Prizes are \$500, \$300 and \$150. Categories are poetry, drama and short fiction. Submissions should be typed double spaced and be no longer than 2,500 words. Entry fee is \$5, payable to the Eden Mills Literary Association. Deadline for entries is June 31. Send to the Eden Mills Writing Contest, Norah Murphy, c/o Writal, Room 217, University Centre.

### HAFAs cuisine

Students from HAFAs's fourth-year fine-dining course are presenting a series of theme gourmet dinners beginning March 8 for five Wednesdays. Themes include Sicilian, Moroccan, Russian and Sri Lankan. Dinner is at 7 p.m. in the HAFAs restaurant. For reservations, call Ext. 3781.

### At the art centre

The Macdonald Stewart Art Centre is holding the opening reception for its annual juried exhibition March 9 from 8 to 9 p.m. Juror Kim Adams will give a gallery talk at 7:30 p.m. "Home Show '95" runs from March 9 to April 16.

### Hit the ice

The CBS Alumni Association will hold a family skate March 4 from 1:30 to 3 p.m. at the twin-pad arena.

### Housing seminars

Student Housing Services will be hosting seminars throughout March about living off campus. Topics include advantages and disadvantages, tips on choosing and renting, leases and the rights of landlords and tenants. The first seminars are March 7 at Lambton Hall and March 8 at Mills. They begin at 6 p.m.

### Reduced hours

The Off-Campus Housing Office is operating under reduced hours during the winter break and for the following week. Hours are 12:45 to 4:30 p.m. until March 10.

### Pipes and psalms

The Dublin Street United Church senior choir, directed by Prof. Robert Hall, Music, presents a concert of organ and choral music March 4 at 7:30 p.m. at Dublin

Church. Guest performer is organist Hart Godden, director of music at Knox-Metropolitan United Church in Regina. Tickets are \$7.50 general, \$20 for families.

### Secretaries to meet

The Guelph chapter of Professional Secretaries International will meet March 8 at the Cutten Club. Dinner is at 6 p.m., followed by Isabelle Hayes of the Canadian Cancer Society speaking on breast health. New members are welcome. For more information, call Ext. 6348 or 766-9012.

### Model aircraft exhibit

Guelph Museums and the Guelph Gremlin Model Flying Club present an exhibit of flying model aircraft at the Guelph Civic Museum March 6 to April 23. The museum is open daily from 1 to 5 p.m. For more information, call 836-1221.

### GSF garage sale

The Guelph Spring Festival is looking for donations of kitchenware, furniture, children's items, etc., for its annual garage sale to be held March 26 at noon at the Guelph Farmers' Market. For pickup, call Carol Koenig at 824-6222.

### Urban forests conference

"Trees for Urban Survival" is the theme of the second Canadian Urban Forests Conference to be held in Windsor July 16 to 19. Cost is

\$225 for delegates, \$125 for members of environmental volunteer groups, \$125 for guests and \$100 for children. Fees increase after June 1. For details, call Patricia Dolan Lewis at 519-255-6877.

### Women's Day

Celebrate International Women's Day March 8 with Faith Nolan and the Women to Women Choir at 8 p.m. at E.L. Fox Auditorium. Tickets are \$10 and are available at the Women's Resource Centre in the University Centre. Subsidies are available. The Guelph YM-YWCA is marking International Women's Day with a photo exhibit called "An African Harvest of Hope" from March 3 to 8.

### Scenario building

Participatory Initiatives presents a workshop on "Scenario Building: Tools for Strategic Planning" March 10 from 9 a.m. to 4 p.m. at the College Park Community Centre. Cost is \$25. For more information, send e-mail to Susan Rinkus at srinkus@uoguelph.ca.

### Volunteers needed

The Guelph YM-YWCA is looking for volunteers for its teenage parents' program to drive teen mothers and their babies to day care to allow the mothers to attend high school. This is a pilot project until June. Mileage payment is available. For more information, call 824-5150. □

## JOBS

As of At Guelph deadline Feb. 24, the following opportunities were available:

**Genetic Evaluation System Analyst**, Department of Animal and Poultry Science, temporary full time to July 1997. Salary range: \$35,931 minimum, \$42,219 normal hiring limit. Removal date: March 3.

The following were available to on-campus employees only:

**Administrative Assistant**, Office of the Dean, College of Biological Science. Salary range: \$32,359

minimum, \$38,018 normal hiring limit, \$40,445 midpoint. Removal date: March 1.

**Administrative Secretary**, Department of Fine Art. Salary range: \$13.81 minimum, \$17.26 job rate, \$20.72 maximum. Removal date: March 3.

It is the University's policy to give prior consideration to on-campus applicants. To determine the availability of University employment opportunities, visit Client Services on Level 5 of the University Centre or call 836-4900. □

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1986 Cutlass Ciera, six-cylinder automatic, excellent condition, 824-5378 after 5 p.m.

Sears "Winnie The Pooh" stroller, excellent condition, powder blue, reversible handle, converts to carriage, double wheels; Evento car seat, CSA-approved, 821-6059.

Muskoka cottage lot, 4 1/4 acres in Port Carling, street and water frontage, public boat launch, fishing, snowmobile trail nearby, Ext. 3877.

Communications card to turn computer into fax and e-mail receiver/sender and telephone answering machine, John, 836-1231.

Humidifier, Ikea bookcase and night table, single bed, French primary books, oak desk, space-saver radio, needlepoint battery clock, Ext. 3460.

### FOR SALE

Baby crib, natural pine color, and mattress, like new, Ext. 8739 or 846-8151.

Solabed, powder blue, good condition; dining suite, mahogany finish, two leaves and six chairs with beige upholstered seats, 763-2175 after 6 p.m.

Two-bedroom condo, close to parks, schools and Stone Road Mall, 15-minute walk to University, five appliances, central air, 1 1/2 baths, large kitchen, open-concept living room, 821-0565.

Small, large and super dog crates/kennels, excellent for housebreaking; rawhides, treats, pet foods, supplies, low prices, Mary, Ext. 4309 or e-mail mmartin@uoguelph.ca.

### FOR RENT

Large one bedroom attic apartment in elegant Victorian home, downtown area, non-smoker, no pets, \$685 a month inclusive, cable included, responsible individuals only, available May 1, 837-1717.

### FOR RENT

One-bedroom apartment, 10-minute drive to University, large property, pets welcome, available May 1 for summer sublet or one-year verbal lease, \$350 a month inclusive, 856-2744.

Large room with ensuite in student-leased home, old University area, non-smokers, will sublet March to August, \$300 a month, Mark, 763-8562.

Furnished room in family home, shared bathroom, kitchen, living room, laundry, parking, on bus route, \$300 a month inclusive or \$400 a month with meals included, Rick or Helen, 824-5173.

### AVAILABLE

Care for your dog provided in my home while you travel, references available, Cobi, Ext. 6010 or 836-8086.

Able-bodied university graduate willing to do jobs to pay off student loans, references available, John, 837-08076.

### WANTED

1990 to 1993 imported hatchback in good to excellent condition, Mark, 763-8562.

Older-model Macintosh computers, whole or parts, Ext. 6472.

Classifieds is a free service available to staff, faculty, students and alumni of the University. Items must be submitted in writing by Wednesday at noon to Linda Graham on Level 4 of the University Centre or fax to 824-7962. For more information, call Ext. 6581.

## OPEN HOUSE

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# CALENDAR

## FRIDAY, MARCH 3

**Symposium** - Plant genetics is the topic of a mini-symposium from 9 a.m. to 12:20 p.m. in UC 103 and a poster session from 2 to 3:30 p.m. in UC 442.

**Biomedical Sciences Seminar** - Graduate student Naem Khan explains the "Role of Thyroid Hormones in Larval Development of Fish" at 12:10 p.m. in OVC 1642.

## SUNDAY, MARCH 5

**Arboretum** - Although we don't often see the animals that live around us, we can see various signs of their presence. To find out more, join a walk that leaves from the nature centre at 2 p.m.

## MONDAY, MARCH 6

**Sociology and Anthropology Seminar** - Visiting researcher Kussai Haj-Yehia offers "Perspectives on the Oriental City: Religion and Holy Places in Jerusalem" at 11:10 a.m. in MacKinnon 316.

**Economics Seminar** - Weiqiu Yu of the University of New Brunswick considers "Preferences Recovery: A New Approach to Testing Theories of Choice Under Uncertainty" at noon in MacKinnon 132.

**Learning Resource Centre** - A seminar for international students on "Working With Verb Tenses" begins at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC Level 3.

**Lecture** - Rick Andrews of Deloitte & Touche Management Consultants discusses "Economic Reform and Business Development: Deloitte & Touche in Russia and Eastern Europe" at 7:30 p.m. in UC 103.

## TUESDAY, MARCH 7

**Nutritional Sciences Seminar** - Melinda Gooderham considers "The Effects of Soy Protein Containing Isoflavones on Various Heart Disease Risk Factors" at 11:10 a.m. in Animal Science/Nutrition 141.

**Our World** - "Impressions and Experiences of International Students in Guelph" is the topic at 12:10 p.m. in UC 334.

**Workshop** - Discussion focuses

on the Natural Sciences and Engineering Research Council's strategic grants program from 3:10 to 5 p.m. in OVC 1713.

**Chemistry/Physics Seminar** - Chemist Peter Jordan of Brandeis University discusses "Electrostatic Perspectives on Permeation Through Transmembrane Ion Channels" at 4 p.m. in MacNaughton 113. To meet with Jordan, call Prof. Saul Goldman at Ext. 3830.

**Meeting** - The student chapter of the Centre for the Study of Animal Welfare meets at 5:15 p.m. in Animal Science 156. Prof. Tom Nudds, Zoology, will discuss "Animal-Welfare Issues in Wildlife Management."

## WEDNESDAY, MARCH 8

**Third-Age Learning** - Stewart Taylor discusses "Canadians in the Royal Flying Corps, the Royal Naval Air Service and the Royal Air Force — 1914-1918" at 10 a.m. at the Arboretum.

**International Development Series** - "GATT and UNCTAD: A Tale of Two International Organizations Serving Development" is the focus of Prof. Brian Woodrow, Political Studies, at 12:10 p.m. in MacKinnon 316.

**Biochemistry Seminar** - Claire Cupples of Concordia University considers "Mutagenesis and DNA Repair in *Escherichia Coli*" at 12:10 p.m. in MacNaughton 222.

**Mathematics & Statistics Seminar** - "On Determining the Number of Signals by the Information Theoretic Criteria" is the focus of Yuehua Wu of York University at 3:10 p.m. in MacNaughton 118.

**Plant Biology Seminar** - Prof. Peter Pauls, Crop Science, explains "Embryogenesis in Tissue Culture Systems" at 3:30 p.m. in Axelrod 117.

## THURSDAY, MARCH 9

**Pathology Seminar** - Graduate student Della Johnston examines "Use of Reverse Transcription/Polymerase Chain Reaction for the Evaluation of Pathogenic and Drug-Resistant Strains of *Eimeria* Species of the Domestic Fowl" at 11:10 a.m. in Pathology 2152.

**Concert** - The Department of Music presents a free concert with

Andrew Klaehn Quartet at noon in MacKinnon 107.

**Reading** - Canadian poet Tim Lilburn will read from his latest work, *Moosewood Sandhills*, at 2:10 p.m. in MacKinnon 229. The talk is sponsored by the Canada Council and the Department of English.

## FRIDAY, MARCH 10

**Nutritional Sciences Seminar** - George Cherian of the University of Western Ontario discusses "Metallothionein in Mineral Metabolism and Development" at 11:10 a.m. in Animal Science/Nutrition 141.

**Evolution/Systematics Seminar** - Prof. Brian Husband, Botany, explains "Evolution of Inbreeding Depression in Plants: Lessons From Polyploids" at 3:10 p.m. in Animal Science/Nutrition 141.

**Economics Seminar** - "Laboratory Experiments With Tradeable Emissions Permits" is the topic of Andy Muller of McMaster University at 3:30 p.m. in MacKinnon 132.

# WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thornbrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

Friederike Knabe, director of Canadian operations for the Unitarian Service Committee, is guest speaker March 5 at 10:30 a.m. at the Guelph Unitarian Fellowship. Her topic is "Building Community: Grassroot Development in the USC's Southern Partner Countries in Asia and Africa." The fellowship is located at Harris Street and York Road. ☐

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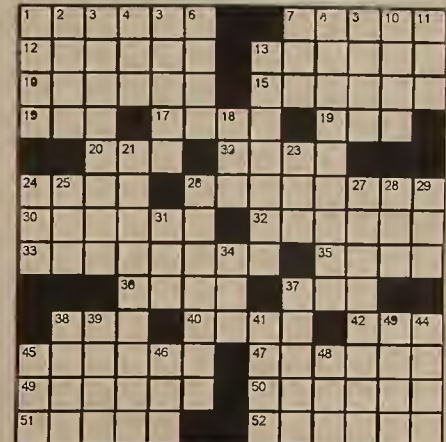
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### ACROSS

1. Narrow valley
7. Young mackerel
12. Single route
13. Was lenient
14. Made an effort
15. Chicago gangster
16. Consanguineous
17. Continent
19. Social insect
20. \_\_\_ in (tired)
22. Crystalline mineral
24. Wilhin comb. form
26. Foolprln castings
30. Unimportant matters
32. Lapis \_\_\_
33. Roselike flower
35. Piquancy
36. \_\_\_ breve
37. Russian village
38. Uppermost
40. Rooney or Griffilh
42. At this time
45. Laundry basket
47. Gel here
49. Osiracized
50. Reinforced
51. Bevel to join
52. Large scissors
27. Picasso painting
28. Raised railroads
29. \_\_\_up (exercise)
31. Nol sound
34. Writer Fleming
37. Magi gift
38. Move on a runway
39. Elide
41. Touches lightly
43. Above
44. Espouses
45. Stitched border
46. Auction ending
48. Actress Dawn Chong

### DOWN

For crossword solution, see page 8.

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# It's a shore thing!

Interdisciplinary team launches 15-year study of interactions between land and water

by Kerith Waddington  
Office of Research

One of the places in nature where two distinctively different ecosystems interact is a shoreline. Guelph researchers are participating in a 15-year study to understand what's happening at this terrestrial and aquatic junction, using Algonquin Park's Scott Lake as a model.

Environmental biology professors Andy Gordon (a forest ecologist), Narinder Kaushik (an aquatic biologist) and Steve Marshall (an entomologist), along with zoology professor Ron Brooks, are overseeing an interdisciplinary research team working at Scott Lake in the Swan Lake Forest Research Reserve. This is Canada's first long-term shoreline ecological research site.

"Long-term research enables us to investigate phenomena that are invisible to us in the present, such as the gradual increase in atmospheric carbon dioxide globally," says Gordon. "Long-term research on shoreline ecotones is necessary because of their complexity. Our research will enhance our ability to predict how these complex systems will respond and

interact in light of the changing global environment."

The shoreline, also called the "near-shore zone," is the most productive area of lakes. Wood and leaves that fall in the water supply an abundance of nutrients. Shallow water enables sunlight to penetrate to the bottom and support plants, which are crucial for food, habitat and water oxygenation. In addition, terrestrial insects in the near-shore zone are an important food source for fish.

Lake water can sustain forests during dry periods, and aquatic insects that emerge from the water as adults provide food for birds and animals using the near-shore zone.

"It's an area of very high biodiversity," says research assistant Elaine Mallory.

The researchers' goal is to examine energy flow between terrestrial and aquatic systems. They believe that by understanding how the shoreline cycle works — and is affected by logging practices or shoreline development like cottages — similar symbiotic ecosystems can be better understood and managed in future.

There have been numerous studies of terrestrial/aquatic interactions in rivers, but not in lakes.

"This project will provide concrete results where before there existed only speculation on forest and lake interactions," says Mallory. "The results of this project will add to our understanding of forest/lake processes and will enable us to better anticipate the results of management activities."

Information on vegetation and insects (both terrestrial and aquatic) is being collected to study energy flow. It will also be used in a comparison with a similar project in Northern Ontario near Atikoken, where lakes that will be logged almost to the shoreline are being studied.

The terrestrial/aquatic interactions the Guelph researchers are looking at include:

- carbon and nutrient inputs to the lake from surrounding streams, ground water and fallen needles, leaves and trees;
- nutrient availability changes in forest to shoreline soils;
- quantities of woody debris entering the lake, the form it enters in (alive or dead) and how

long it releases nutrients or is useful as habitat;

- aquatic insect, algae and fish use of leaf litter and submerged woody debris for food and/or shelter;
- energy transfers caused by small mammals such as beavers, which cut trees that fall in the water; and
- two-way energy transfer by amphibians and insects as terrestrial adults lay eggs in the lake and aquatic larvae move into the forest as adults.

Mallory is looking for widespread benefits from the study.

"We hope the results of the Scott Lake project will eventually be applied to a greater understanding and possible rehabilitation of other lake systems."

This study is funded by the Sustainable Forestry Initiative supported by the Ontario Ministry of Natural Resources. Support has also been provided through Ontario Graduate Scholarships and the Environmental Youth Corps Program. The Department of Environmental Biology is supporting production of an educational video based on this research. □

## Former OVC dean practises three Rs

Retirement, recreation and writing tell the story of what's new in the life of former OVC dean Doug Maplesden as he and his wife, Joan, celebrate the publication of their first co-authored novel.

Published under the pen name J.D. Maples, *Deadly Design* is a mystery set in the Maplesden's town of Fort Lauderdale, Fla., that draws on their combined expertise in recreational boating.

Both authors are members of the U.S. Power Squadrons, an organization of boaters dedicated to safe boating through self-education. Doug was education officer of the local squadron for three years, and Joan is currently the first female commander in the 26-year history of the squadron. They both hold the grade of navigator and are frequent contributors to *Southern Boating* magazine.

Publication is certainly not new to Doug Maplesden. In addition to his academic work, he is a former editor of the *Canadian Veterinary Journal* and associate editor of the *Florida Journal of Public Health*. He is the author of *The Handbook of Nutrition* and *The Universal Diet* and writes freelance articles on nutritional subjects.

*Deadly Design* isn't the first novel the couple has written together, but it's the first that has been accepted for publication. They hope to publish a second suspense novel in the near future. It, too, will feature the Fort Lauderdale boating community, where the Maplesdens have lived for the last eight years.

Doug Maplesden was a professor at OVC from 1953 to 1963 and dean from 1980 to 1983. He is also a member and class president of OVC '50.

Distributed in Canada by Cannon, *Deadly Design* is available in the U of G Library. □



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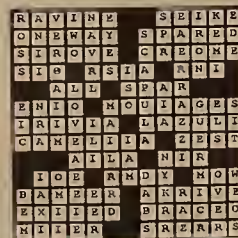
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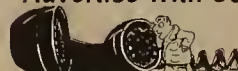


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## FIRST GLANCE

### Day to honor philosopher

The contributions of professor emeritus Jakob Amstutz, Philosophy, will be honored with a day of paper presentations by his colleagues and former students March 11 from 10 a.m. to 4 p.m. at the Macdonald Stewart Art Centre. Everyone is welcome. At lunch, Amstutz's former student Peter Vaughan will give an informal illustrated talk about his experiences with the United Nations and the refugee problem in Bosnia. For more information, call the Department of Philosophy at Ext. 3885.

### Making choices

"Making the Choices, A Draft Vision and Enabling Strategies," the interim report of the Strategic-Planning Commission, appears in full in this issue. A four-page wrap-around presents highlights of the report and all the recommendations.

### Inside:

Senate to focus more on philosophy, strategic planning . . . . . 3

Artificial dog abdomen wins acclaim . . . . . 3

Debunking the 'mommy track' myth . . . . . 4

Arctic yields secrets to be uncovered . . . . . 5

Eat your way around the world with HAFA . . . 8

Included with this issue of *At Guelph* is the program for College Royal and an insert from the Bookshelf Cinema.

### Thought for the week

*The time to relax is when you don't have time for it.*

Sydney J. Harris



## SPC interim report maps out vision for future

"Making the Choices," the interim report of the Strategic-Planning Commission (SPC), maps out a vision for the future University of Guelph.

The report, which appears in full in this issue of *At Guelph*, puts forward a strategic vision, a "beacon" that will provide direction to change. Central to this vision are the mission statement and five strategic directions — the learner-centred university, the research-intensive university, collaboration, internationalism and open learning.

The report's 106 recommendations cover academic programs, academic structures, resource allocation, services to students, human resources, alumni, physical resources, financial resources and governance. The report presents a clear sense of direction and recommends "enabling strategies," changes that must occur for the University to fully realize its strategic vision.

SPC chair Prof. Bev Kay says the enabling strategies include a series of processes that will allow U of G to reconfigure itself in response to declining resources, while still pursuing a

commitment to innovation and excellence.

The commission has not prescribed a new configuration of structures or programs for the University, but has instead proposed processes that will enable reconfiguration to occur in a rational manner over time.

The strategic-planning process must not be viewed as an end in itself, says Kay, but rather as part of an ongoing journey.

Changes recommended in "Making the Choices" won't occur overnight, he says. Creating a more learner-centred environment, for example, will require resources and time. Some of the recommendations propose processes — such as assessing the quality of academic departments — that will become ongoing.

None of the changes will occur without careful attention to allocation of financial resources. Kay believes it is imperative to retain as much flexibility as possible to reconfigure the University along the lines of its strategic vision. This will mean not filling faculty positions on a permanent basis until:

- a resource-allocation process is developed;
- criteria for assessing quality of departments are defined;
- criteria for continuation of specializations and courses are accepted; and
- reviews of departments and/or interdepartmental units requesting positions are completed.

A management plan for human resources is also key to achieving the strategic vision, says Kay. "We have to put emphasis on the strengths, the creativity and the initiative of people throughout this institution."

Publication of the interim report marks the beginning of a four-week consultation period, during which students, faculty, staff, alumni and the broader community are being asked to respond to the report. Kay is asking the community to look for omissions, errors in logic or deficiencies in the way issues are addressed. "What have we missed?"

This issue of *At Guelph* contains both the report, "Making Choices: A Draft Vision and Enabling Strategies," and a four-page overview, "Highlights from Making the Choices." The highlights are being published simultaneously in the *Ontario* to give students ample opportunity to participate in the community discussion.

Additional copies of the report are available in the *At Guelph* distribution boxes on Level 1 of the University Centre and from the Strategic-Planning Office on Level 4.

SPC will consider input received during the consultation period and prepare a final report for presentation to the president later in the spring.

The commission has not established priorities or set time lines for the recommendations in this report, although it does suggest that recommendations allowing Guelph to cut expenditures and deal with a reduced number of faculty and staff have top priority. Of immediate urgency, says the report, are actions to reduce course offerings and develop a resource-allocation process.

Kay believes these issues must be addressed fairly quickly, particularly if faculty hiring decisions have to wait for the resolution of these issues. □



### Vegging out

Researcher Julie Conquer, getting set to dig into a veggie burger, says the vegetarian lifestyle can be even healthier. See story on page 5. Photo by Trina Koster, Office of Research

The University community, including alumni, will have an opportunity to discuss SPC's interim report at a series of public meetings:

- March 13, noon to 2 p.m., Eccles Centre.
- March 13, 4 to 6 p.m., Eccles Centre.
- March 22, 5 to 7 p.m., Thornbrough 100.
- March 27, 4 to 6 p.m., University Centre 103.
- March 29, 4 to 6 p.m., OVC Learning Centre.

A meeting for alumni will be held March 29 at 6 p.m. at the Arboretum. An RSVP for this meeting only is requested at Ext. 6541.

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by David Walcott  
Gordon Gouhan

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At Guelph top stories and coming events can be accessed on GRIFF.

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## LETTERS

### Research VP gives update on OMAFRA agreement restructuring

Prof. Larry Schaeffer's letter in the Feb. 22 *At Guelph* about the restructuring of the University's agreement with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has prompted me to provide a brief update on the progress of restructuring.

The OMAFRA contract is very important to U of G and, fortunately, the ministry recognizes several facts in respect to our relationship with them.

- We have a broad base of expertise that understands the agri-

culture and food industry.

- Our educational and research activities complement each other, and that adds quality to both components.

- OMAFRA's support allows us to obtain at least as much additional research funding from other sources for a greater overall output (a win-win situation).

The research benefits that flow from this relationship will continue to help Ontario's agriculture and food system move forward. At the same time, it is a contract, and OMAFRA is entitled to assurances that its resources are used exclusively to deliver results to the contract. The restructured system is therefore being set up to ensure that the best research projects are selected and supported through a competitive process and that we address the areas of highest research priority.

It is important to note that throughout the restructuring process, the researchers who have been committed to the work of the OMAFRA agreement have decided the definitions, structure and principles of operation of the new system and its programs.

Without question, it's a "new world" out there. I understand that change will result in certain frustra-

tions and that new procedures take time to evolve. In the end, however, the new system will be in place for the next budget year, and I have complete confidence that the new structure will allow us to deliver a better research product. This will then help ensure that we continue to retain our important relationship with the agriculture and food system.

If anyone has concerns or questions about the programs, they should contact one of the six program leaders, who are now in place and would be happy to provide information and help. They are:

- Animal program — Prof. Roger Hacker, Animal and Poultry Science, Ext. 3648;
- Plant program — Prof. Gord

Surgeoner, Environmental Biology, Ext. 3966;

- Agri-food systems — Prof. George Brinkman, Agricultural Economics and Business, Ext. 3625;

- Environment/resources — Prof. Gary Kachanoski, Land Resource Science, Ext. 2498;

- Food program — Prof. Marc Le Maguer, Food Science, Ext. 6590 (Prof. Marvin Tung until September 1995); and

- Sustainable rural communities — Prof. George Penfold, University School of Rural Planning and Development, Ext. 8901.

Prof. Larry Milligan  
Vice-President, Research

### Restructuring plan offered

I apologize for my letter about the restructuring of the OMAFRA agreement in the Feb. 22 issue of *At Guelph*. The feedback on my letter indicated it was either "out of line" (one response) or "bang on" (three responses).

There was not enough space to be both critical and constructive in *At Guelph*. I have put together a

document outlining a plan for OMAFRA restructuring even though I had no FTE to do so. Because it is too long and inappropriate for *At Guelph*, anyone wishing a copy can contact me through e-mail at lrs@aps.uoguelph.ca.

Prof. Larry Schaeffer  
Animal and Poultry Science

### Thanks for the generosity

To everyone who participated in my farewell reception and to those who sent cards, letters and gifts, my sincerest thanks for your generosity of heart and spirit. You have all helped make my years at U of G a warm and memorable experience. I shall never forget you. Please keep in touch.

Kay MacLeod  
Office of the Vice-President,  
Administration

### GRAD NEWS

The final examination of **Vallantino Emongor**, a PhD candidate in the Department of Horticultural Science, is March 10. The presentation is at 9 a.m. in Room 2310 of Graham Hall, followed by the defence in Room 1118. The thesis is "Thinning Activity of Benzyladenine on Empire Apples: Application, Timing and Fruit Storage." His adviser is Prof. Dennis Murr. □

### Search under way for chair of MB&G

A selection committee has been appointed to conduct a search for a new chair of the Department of Molecular Biology and Genetics.

The committee is chaired by College of Biological Science dean Bruce Sells.

Other committee members are Profs. Jan Bag, John Phillips and Alan Wildeman, Molecular Biology and Genetics; Prof. Patricia Shewen, Veterinary Microbiology and Immunology;

research vice-president Larry Milligan; Prof. Jim Kirkland, Nutritional Sciences; and Robert Harris, chief technician in the Department of Microbiology.

Applications and nominations should be submitted to Sells.

Consideration of applications will begin April 17 and will continue until the post is filled. □

### AWARDS

Prof. John Laing, Environmental Biology, was awarded \$86,700 by the Ministry of the Environment and Energy for "Biological Control of Purple Loosestrife *Lythrum Salicaria* in Ontario."

The Canadian Chicken Marketing Agency awarded Prof. Jim Squires, Animal and Poultry Science, \$17,000 for his work on "Omega-3 Fatty Acids in Broiler Diets to Prevent Ascites and Improve the Quality of Poultry Meat." He also received \$8,000 from the Canadian Network of Toxicology Centres for "Reproductive Endocrine Toxicology."

Prof. Chris Hall, Environmental Biology, received \$60,030 from Food Systems 2002 for "Non-Chemical Alternatives to Herbicides for Weed Control in Turf." He was also awarded \$40,000 a year for three years by the Ministry of Environment and Energy for "Sustainable Management Strategies to Protect and Enhance Environmental Quality of the Urban Greenspace" and \$14,204 U.S. by the University of Montana for "ELISA Determinations for Picloram in Soil and Vegetable Samples." □



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## Senate delegates routine tasks to focus on philosophy, planning

by Kerith Weddington  
University Communications

Senate is losing its "rubber stamp" reputation.

In a move designed to provide the University's academic governing body with the time to debate more philosophical or strategic-planning issues, its more routine responsibilities will be delegated to Senate committees over the coming year.

And to safeguard confidence in these committees as they take on their new decision-making roles, their memberships will undergo an overhaul with a new policy that gives both faculty and Senate strong input into their composition.

These changes — the result of discussion that followed a 1994 presentation to Senate by its Bylaws and Membership Committee, which is responsible for the

body's function and structure — have been approved by senators and are being implemented. Senate secretary Brenda Whiteside believes these initiatives mirror much of what U of G's Strategic-Planning Commission (SPC) is all about.

"To prepare the Senate committees for their greater authority, an ongoing review of committee membership and mandates is occurring," says Whiteside. "The goal is to heighten efficiency at every level. This will enable Senate to spend its time looking at the forest, rather than focusing on the trees."

Greater use of technology will allow committees to better communicate with Senate, enabling the governing body to shift its focus, she says.

Information traditionally brought to Senate solely for notification purposes will be disseminated differently — either put on GRIFF or compiled by committees for fewer, more comprehensive report presentations to Senate.

Information traditionally brought to Senate for approval will, where appropriate, be delegated to boards or committees that have been given the authority to approve.

Bylaws and Membership Committee chair Prof. Susan Evers, Family Studies, believes Senate will now have the time it needs to discuss critical issues facing the University — including initiatives coming out of SPC.

"With the paradigm shifts to accompany implementation of SPC initiatives, it's important that Senate become more of a planning body," she says. Delegating more responsibility to committees is a recognition of "their hard and thorough work." □

## Artificial dog abdomen earns OVC international attention

by Margeret Boyd  
University Communications

An artificial dog abdomen developed five years ago at OVC as a teaching tool is ringing up international sales.

The fabric and foam-rubber teaching device called DASIE — dog abdominal surrogate for instructional exercises — is being used by veterinary students in Canada, the United States, Britain, Israel and Australia.

Spinoff models of other artificial components have also been created at OVC to teach blood sampling from the neck and castration of cats.

DASIE sales have doubled each year, and the next step is to find a manufacturer to take over production and marketing, says DASIE inventor Prof. David Holmberg, Clinical Studies. The college sold out its DASIE units this fall, and demand continues to grow.

The device is popular because it allows for basic surgical-skill training for students, says Holmberg. DASIE could also be used in medical and nursing schools because basic surgical skills are the same for all species, he says.

"Students need to learn certain psychomotor skills, how to use drapes and instruments. If they use ani-

mals, they focus on the animal's well-being and not the skills."

The alternative of practising on canine cadavers is less expedient, says Holmberg. It requires stocking and freezing dead animals, and the tissue from these animals has different properties than living tissue. It's not feasible for beginning students to practise surgical skills on client-owned patients because most referrals to the OVC hospital are complex cases, he says.

DASIE's hollow 12-inch-long, four-inch-wide cylindrical form mimics the abdominal physique of a typical 20-pound dog. The device has the tension and resistance to create a tissue-like response to surgical incisions and instrumentation. It also contains about two feet of bowels — actually tubes of polyurethane foam — to allow students to practise suturing and instrument-handling techniques. The DASIE retails for about \$15.

Abdominal surgery is a major part of a veterinary surgeon's caseload and includes such common procedures as spaying and removing intestinal foreign bodies or stones.

Proceeds from DASIE sales go towards a fund that is dedicated to developing non-animal models for teaching surgery. □



A horse is a horse of course, of course, but at the Sunrise Equestrian Centre, a horse can also be a child's best pal.

## Campaign helps Sunrise equestrians get a leg up

The Sunrise Equestrian Centre is staging a capital campaign in hopes of being able to offer programs year round to adults and children with a range of disabilities.

Currently limited by facilities and climate, the centre — a non-profit operation that's been offering services for 13 summers as a member of both the Ontario and Canadian Therapeutic Riding associations — hopes to buy land and build an arena with the proceeds of the campaign.

This would give the centre long-term sustainability as it offers high-quality therapeutic programs in equestrian, recreation and life skills year round, says retired registrar Arnold Holmes, who is chairing the fund-raising campaign for the University com-

munity. He hopes the support the centre has received from the campus in the past will continue.

"Faculty, staff and students have been integral to the success of the centre, both in terms of time and donations," says Holmes. "Seeing participants smile makes it all worthwhile."

Jim Chase, a 1994 U of G grad and volunteer at the centre, agrees. "Working at the centre is gratifying, and I've enjoyed it," he says. "It's both physical and fun and doesn't take up that much time."

An information booth about the centre will be set up in the University Centre March 13, 14 and 15. Individuals interested in making a donation or volunteering can pick up a brochure at the booth or call Holmes at 821-1106 or the centre at 837-0558. □

## Gryphon teams score at provincial competitions

The men's basketball Gryphons beat McMaster 76 to 62 Sunday to win the Ontario University Athletic Association (OUAA) west division championship and earn a berth in the Canadian Intervarsity Athletic Union (CIAU) national competition in Halifax March 17 to 19. This Saturday, the team plays at the University of Toronto at 2 p.m. for the overall Ontario title.

West-division OUAA honors went to basketball coach Tim Darling as coach of the year, Collin Jones as rookie of the year,

Rob Henry as first-team all-star and Paul Eldridge as second-team all-star.

Meanwhile over on the ice, the men's hockey Gryphons lost to Western 5 to 4 in double overtime on the weekend, but beat the Université de Québec à Trois Rivières 3 to 1. That earns them a place in the CIAU championships.

The team plays Calgary this Friday at 4 p.m. at Varsity Arena in Toronto. If they win, they go on to play the winner of the Western-Moncton match Sunday at 7 p.m. at Maple Leaf Gardens. □



Adding up the FACS

The new addition to the FACS Building is taking shape. Funding to cover construction and furnishing costs is in place, but fund raising for an operating endowment continues.

Photo by Kerith Weddington, University Communications





Prof. Karen Korabik says it's important to demystify perceptions about women's employment patterns.

Photo by Trina Koster, Office of Research

## Debunking the 'mommy track' myth

by Shawn Chirrey  
Office of Research

Are professional women really leaving the workforce in droves to raise their families and have children? Are they fodder for what corporate analyst Felice Schwartz calls the "mommy track"?

Not according to Prof. Karen Korabik, Psychology. She says that as women take more prominent roles in the corporate world, it's important to demystify perceptions about their employment patterns.

"In the past few years, there have been increasing claims of high attrition levels among these women, who are said to be returning to domestic roles," says Korabik. "These claims, based more on speculation rather than grounded in solid empirical research, may contribute to the perception that women's commitment to organizations and to their careers is less than men's, and may serve to perpetuate and justify the existence of barriers to women's corporate advancement."

Korabik and Hazel Rosin, a professor of administrative studies at York University, are conducting a three-year study funded by the Social Sciences and Humanities Research Council to examine corporate turnover for both women and men. This project follows an earlier study by the duo that revealed the following:

- far fewer female managers are quitting than had been estimated;
- family duties are not the main reason for women "dropping out";
- similar numbers of men leave organizations, but some of their reasons are different; and
- female managers with children are no less committed to career and company than those without children.

"We found that nearly one-quarter of women respondents had a high propensity to leave, and most of them were

planning to find alternative organizational employment and had no intention of leaving the workforce," says Korabik. In addition, the women who intended to leave said they would do so for work-related reasons such as job satisfaction and gender-related reasons such as office politics and being in a male-dominated environment, rather than family reasons.

The researchers also found that unmarried women without children were those most likely to intend to leave an organization, totally debunking the family-first theory.

Previous organizational behavior studies focusing on voluntary turnover have not investigated the reasons for turnover or whether there are differences between men and women, says Korabik.

With a sample of 1,000 men and 1,000 women from four professional sectors (banking, engineering, business management and accounting) being tracked over the three years, Korabik and Rosin hope to detect trends influencing intended and actual turnover. They will also examine 50 Canadian companies for their perceptions of the prevalence of quitting and the reasons men and women give for quitting, and whether quitting may be influenced by organizational policies and programs such as flexibility, parental leave, job sharing, part-time work, day care and gender policies.

"In the future, as the number of women entering professional organizations continues to grow, organizations will have to depend increasingly on female management recruits and will ill be able to lose them through quitting," says Korabik. "Research that establishes the nature, dynamics and extent of sex differences in turnover and its precursors can be helpful in suggesting organizational interventions such as changes in policy with regard to part-time employment, which facilitate the retention of women — if their retention is indeed a problem." □

## VISITOR

Michel Marc Bouchard, described by *The Globe and Mail* as one of the strongest of the young generation of Quebec playwrights, will be on campus March 20 to give a talk sponsored by the Department of French Studies.

The author of 20 plays, Bouchard is best known in English Canada for his drama *Lilies* and for his children's show about child abuse, *The Tale of Teeka*. In his talk, which will be given in French, he will discuss the evolution of his writing and comment on current and future trends in Quebec theatre, touching on the role of the playwright as an agent of social change.

The talk begins at 7 p.m. in Room 107 of the MacKinnon Building. For more information, call Prof. François Paré at Ext. 3884. □

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## MAKING THE CHOICES

THE INTERIM REPORT OF THE STRATEGIC PLANNING COMMISSION

MARCH 7, 1995

## I. INTRODUCTION

The Strategic Planning Commission (SPC) was created by President Rozanski in November, 1993. He asked the Commission to examine the mission and future direction of the University in the context of current budget realities. The President noted in his charge to the Commission that consideration should be given to the external environment, as well as to our institutional values and strengths, and that the strategic planning process should involve wide consultation. Above all, he was looking for a vision of continuing excellence.

*Making the Choices* is a draft version of the final report of the SPC. It builds on reports from twenty-three task forces and committees involving in excess of two hundred members of the community. This report has also benefited from many written submissions and comments made at a number of open meetings to discuss the report. It will surprise no one to learn that the voices of a university community often say conflicting things. It has been the SPC's task, based in large part on dramatic changes now unfolding or forecast by studies of the external environment, to reconcile (to the extent possible) the expressed will of the community and the necessity for change.

Forces in the external environment have important consequences for the University environment. Although demands on universities are increasing, public resources are dwindling; in the catch-phrase of the day, we are being asked to do more with less. These forces also point to a future of greater intellectual and global interdependence, rapid change, and the need for greater flexibility and improved articulation in the whole of our educational system. But these two fundamental realities — increasing demand/dwindling resources and a shift to interdependence — combine to suggest at least part of the answer to our conundrum. To survive and prosper in this climate, universities must forge closer and more extensive links with business, industry, government, and one another. Universities must also make the wisest possible use of technology, time, and expertise to become more efficient.

The degree to which the University can respond to changes in the external environment and pursue initiatives in teaching and research relates to the structure of its budget. Guelph, like other universities in Ontario, is dependent on provincial grants and tuition to meet most of its operating costs, including the costs of instruction, non-sponsored research, academic and student support, administration, and physical plant operation. Total personnel costs make up 80% of the operating budget, and almost all of the remainder is identified with structurally committed operational costs; there are virtually no flexible or discretionary funds.

The University's Special Early Retirement Program (SERP) was introduced in 1994 to create greater flexibility in the budget and to meet a projected deficit of \$8.9M at the end of the Social Contract (April 1996). The resulting flexibility in the operating budget presents opportunities as well as profound challenges that are fundamental to this planning process. The opportunities include investments to pursue new directions, to rationalize our structures, to "re-engineer" our services and reduce long-term operational costs, and to diversify our sources of income. The flexibility created by SERP may also prove critical in helping us to survive the

impact of any further reductions in provincial grants. The challenges that must be met are considerable; they arise from the reduction of the number of faculty and staff that is necessary to meet the projected deficit and create this flexibility.

The Commission's response to trends in the external environment, budget realities, the challenges and opportunities created by the SERP, and the values and aspirations of the community, is of necessity many-faceted. We begin with the assumption that even if our goals with respect to the overall quality of research, teaching and service were to remain the same, it would be necessary to do things differently. But our goal is not simply to find some means of coping; our goal is to flourish — even in adverse circumstances.

A vision for the future University of Guelph, one that builds on our considerable strengths and defines changes of direction that should occur, is described in the following sections. The changes proposed involve a number of closely inter-related elements, which the Commission believes will make it possible to meet the challenge of declining resources and continue on an upward path.

## II. THE STRATEGIC VISION

The Strategic Vision is intended to be a beacon that will provide direction to change. The Mission of the University is the most essential element of this Vision. Another element relates to the students who will become a part of the University and their distribution in academic programs. The final element of the Strategic Vision is made up of five profoundly inter-connected Strategic Directions, which should be the focus for institutional change.

## STUDENTS

The number and characteristics of the students who join the University will have an impact on the character of the institution. In Fall 1993, undergraduate enrolment stood at 11,148 FTEs, and graduate enrolment at 1,568 FTEs. The SPC supports a decrease in undergraduate enrolment to 10,000 in Fall 1998 and an increase in the number of graduate students wherever possible. (Recommendation 2).

The academic quality of students admitted to Guelph is very high. We are entering a much more competitive era, but it will be essential that we retain this quality. Vigorous liaison efforts and enhanced financial support will be necessary. (Recommendation 3)

The University should continue to emphasize its residential character and its focus on high school graduates while at the same time serving the needs of students wishing to access our programs from a distance using Open Learning opportunities. (Recommendation 4).

One of our educational strategies focuses on the need to help our students develop a global and international perspective (Recommendations 5 to 7). Increasing the cultural diversity of the student population is one element of this strategy. But having recruited a more diverse student body, we must ensure that our campus is welcoming and hospitable to all students.

The distribution of students among the major groups of undergraduate degree programs is also a defining characteristic of the institution. Over the past decade there have been shifts in enrolment in the different programs, but the 60% undergraduate enrolment in Science, relative to Arts & Social Science, has remained constant. The proposed enrolment reduction is not intended to change this mix. Other decisions with respect to programs and courses will have implications for student numbers, but changes in the distribution in enrolments will be consequences of these decisions and not the result of pre-set targets.

## MISSION STATEMENT

The University of Guelph is a research-intensive, learner-centred university. It offers a wide range of high quality undergraduate and graduate programs in the arts and humanities, social sciences, and natural sciences. Building on these core disciplines, it also has a strong commitment to excellence in its interdisciplinary programs, in a selected range of professional and applied programs, and in agriculture and veterinary medicine as areas of special responsibility.

The University of Guelph is dedicated to the discovery, sharing, and application of knowledge. In seeking to uncover and respect the diversity and profound interconnectedness of life, the University is both practical and idealistic. Its core value is the pursuit of truth. Its aim is to make a real difference in Canadian society and in the world, to enlarge the scope and enhance the quality of human life, and to bring imagination, skill, and a sense of responsibility to bear on the task of caring for our natural environment. Both in its research and in its teaching programs, Guelph is committed to a global perspective.

The University is animated by a spirit of free and open inquiry, collaboration, and mutual respect. It attracts students, faculty, and staff of the highest quality and is committed to maintaining for all members of its community an environment that is hospitable, safe, supportive, equitable, pleasurable, and intellectually exciting.

The University of Guelph is determined to put the learner at the centre of all it does, recognizing that a great university is a community of scholars, that research and teaching are intimately linked, and that learning is a life-long commitment. The University eagerly promotes collaboration among undergraduates, graduate students, faculty, staff, and alumni, as well as with our neighbours, other educational institutions, government, business, and the international community.

Guelph is committed to the highest standards of innovative pedagogy, to the education and well-being of the whole person, to meeting the needs of all learners in a purposefully diverse community, to the pursuit of its learning objectives and measurable outcomes, to the fostering of creativity, to an ethos of active learning, and to the integration of skills and critical inquiry in a carefully designed curriculum. A central concern is the need to educate students for life and work in a rapidly changing world.

The University of Guelph welcomes public scrutiny of the fulfilment of its mission, especially by the people of Ontario, to whom it is accountable.

## STRATEGIC DIRECTIONS

Five inter-connected Strategic Directions that have potential for all academic areas of the institution and are of a continuing, long term nature are proposed. Initiatives that support implementation of these Strategic Directions are described in Recommendations 9 to 48.

## THE LEARNER-CENTRED UNIVERSITY

The University can enhance the quality of its educational programs by placing greater emphasis on self-directed learning by students, developing closer links between teaching and other scholarly activity in which faculty are engaged, promoting the acquisition of an extensive repertoire of learning and inquiry skills by students, and paying greater attention to experiential learning. In these four ways we can help prepare students for life-long learning.

In rethinking the way students learn, the SPC has been motivated by something other than financial duress. All of the research we have seen makes clear the need to foster self-reliance and active learning in our students. While large classes and a lecture format may be one result of fewer faculty and fewer courses, a learner-centred approach would diminish reliance on the lecture as the prime medium for instruction. Faculty should shift the emphasis in teaching toward facilitating more small group work supervising students' own research and scholarly work and utilizing computer assisted instruction to a greater degree. Students will have to define learning goals more clearly, enhance their

skills of scholarly inquiry and learn to work more effectively in collaborative learning settings.

The adoption of a more learner-centred approach to education will necessitate a re-evaluation by both faculty and students of how learning is accomplished. It will also take time, money, good will and dedication to effect change.

## THE RESEARCH-INTENSIVE UNIVERSITY

The term "research-intensive" distinguishes University of Guelph from many other universities. It suggests our unusually high level of research activity, and is meant also to underscore the integration of inquiry into all aspects of academic life. Research-intensiveness is a core value of the University and a source of great institutional pride. In the last decade, external funding for research, the impact/quality of research, and the number and quality of our graduate programs and students, have increased dramatically. It will, however, be increasingly difficult to sustain this level of research-intensiveness in the face of declining faculty and staff numbers, erosion of government support for research, and increasingly fierce competition for funding from external granting agencies. Research-intensiveness is proposed as a strategic direction because of the difficulty we expect to face in sustaining the current level of research — and because reaffirmation of our commitment to remain research-intensive is regarded by the Commission as essential.

Despite resource constraints, opportunities to pursue new directions in research arise

*Making the Choices* is available in two formats, a four-page Highlights version and the full report, including the Highlights. If you would like a copy of the complete report, check the *At Guelph* distribution cases in the University Centre or contact the Strategic Planning Commission office, UC 4, Ext. 4174.



continuously. The University, in addition to upholding the individual researcher's choice of direction, must identify and develop opportunities of strategic importance. Partnerships with organizations in the public and private sectors will become increasingly important in the context of a highly competitive global economy.

Increasingly, the priorities of funding agencies, and the problems researchers are asked to address, call for collaboration. Catalyzing such transient, problem-based interaction is one of the keys to great innovation — and should be an important part of the mandate of the Office of Research and the Research Board. In addition, the development of skills necessary for successful collaboration should be incorporated more fully into the education of researchers, particularly at the Ph.D. level.

A special collaborative relationship has evolved between the University and the Ontario Ministry of Agriculture, Food and Rural Affairs. The level of support that this Ministry provides to the University places Guelph in a unique position among Canadian universities and contributes significantly to the current level of research intensity.

In the face of constrained resources, the University cannot hope to be equally accomplished in all of its research endeavours. Our research and graduate education must continue to support our areas of special responsibility. The University must also support excellence wherever it arises in all other areas.

The Commission's intent is to maintain the present balance between teaching and research effort over the University as a whole. Additional strategies to preserve and enhance research intensity involve a focus on the quality/impact of research (rather than quantity); hiring with a view to research potential and teaching effectiveness in all academic areas, as well as nurturing the research careers of new faculty; facilitating and focusing effort on particular, strategic opportunities that may arise; and taking full advantage of opportunities for external funding.

#### ► COLLABORATION

Collaboration is proposed by the Commission as a strategic direction because to pursue that direction vigorously will require a concerted effort and a change of mind-set throughout the University. It is an essential coping strategy, and a means of achieving more than can be accomplished alone. In educational terms, however, it may also be an end in itself. The competitive orientation or focus on individual achievement that has characterized universities in the past will no longer suffice; collaboration, or cooperation, is now vital.

Collaboration is important both within and between disciplines. The scholarship of integration — including links within and between the sciences, the social sciences, and the humanities — will be critical for life in the 21st century. The need to reinforce the partnership between the academic and non-academic areas of the institution is perhaps greater than ever. Our commitment to the education and well-being of "the whole person" is an attractive and distinguishing feature of the University and one that requires partnerships among all of us who dedicate ourselves to the development of our students.

Collaboration also means working much more closely with alumni, and with other educational institutions, governments, and the business community.

#### ► INTERNATIONALISM

The world faces challenges arising from population growth, resurgent nationalism and factionalism, ignorance, resource depletion, and the deterioration of the environment. Because these challenges are so vast and complex, multidisciplinary, multi-sectoral, and often multi-governmental initiatives are required to address them. Universities can and should play a vital role in meeting these challenges.

The world is also characterized by the increasing flow of information, people, capital, and products across national boundaries. The extraordinary capacity for world-wide, computer-assisted communication among individuals and institutions offers exciting opportunities in education as well as research. The increasing flow of information and people is also contributing to changes of critical importance that are often poorly understood; foremost among these is the transformation of cultures.

In light of these realities, we have a responsibility to foster a global perspective and knowledge of other cultures in our students.

We should increase the opportunities for our own students to study abroad and for international students to study at Guelph. The development of curricula that incorporate international content and perspectives, and of programs with an explicit international orientation as well as the study of foreign languages, are critical to the internationalization of the University.

In assessing opportunities to internationalize, the University of Guelph should remain open to need or opportunity around the world. At the same time, we should focus scarce institutional resources on those particular geographical areas where we are best positioned to seize opportunities and to make a significant contribution.

#### ► OPEN LEARNING

Open Learning encompasses the delivery of credit and non-credit courses to students other than those enrolled in undergraduate and graduate degree/diploma programs. The non-credit portion of the Open Learning operation was formerly called "Continuing Education." The credit portion arises from Senate's recent approval of a new Open Learning Program, with an open admission policy, which offers distance education courses. Credits obtained by students registered in the Open Learning Program are transferable to degree/diploma programs. Students in the Open Learning Program may be seeking advanced training in a professional field, or may be taking lower-level courses with the hope of transferring credits to a degree/diploma program at Guelph or another institution.

Distance courses developed for our regular students can also serve students registered in the Open Learning Program, multiplying the benefits that will accrue to the institution. Other distance courses may be developed exclusively for the use of students in the Open Learning Program with specialized (usually professional) needs.

Open Learning is proposed as a strategic direction because it can increase accessibility and service to the community — and because it will bring new money into the University. With respect to our regular degree/diploma students, who will continue to comprise the main body of learners served by this institution, the choice of Open Learning as a strategic direction is a means of increasing curricular efficiency and richness through expanded and improved distance education courses.

### III. ENABLING STRATEGIES

The term enabling strategies is used to describe changes that must occur or initiatives that must be taken if the University is to realize fully the Strategic Vision that has been described in the preceding section.

#### ACADEMIC PROGRAMS

A reduction in faculty numbers dictates a reduction in the number of course sections offered. Strategies to achieve such reduction and other important objectives include a move to fall-entry only for new undergraduate students, prior learning assessment, a course credit system and a review of all specializations and courses (Recommendations 49 to 55). The thorough review of the curriculum is also intended to further our learner-centred agenda and enhance internationalism in our programs.

#### ACADEMIC STRUCTURES

A review of current academic structures identified the need to facilitate interdisciplinary activity and to realign or rationalize structures. Councils are proposed as a means of achieving this. Although work associated with Councils must be tied (through associated departments and colleges) to the resource allocation process, Councils are not proposed as budget units. Rather, they must be viewed as enabling structures, established to accommodate a community of interest that crosses departmental and college lines. (Recommendations 56 to 71)

#### RESOURCE ALLOCATION

The process of allocating resources (human, physical, and financial) among academic and all other budget units is a potent force in helping the University as a whole to pursue its vision. The process should allow units to

fulfil defined functions, should provide incentives to use resources effectively, should reflect and enhance quality, and should make it possible to respond to Strategic Directions and new opportunities. It must also permit flexibility in the institution as a whole.

The critical elements of a resource allocation process are proposed in Recommendations 72 to 75. For both academic and non-academic units, thorough reviews are proposed that will assist the University to strengthen its performance and to determine where scarce resources are most appropriately focused. The reallocation of resources will occur primarily through the reallocation of positions as they become vacant.

#### SERVICES TO STUDENTS/ACADEMIC AND ADMINISTRATIVE SUPPORT

Services were examined from the perspective of function rather than administrative unit. Four issues were identified as having a major impact on the ability of the University to realize its vision: stronger links between service providers and academic programs; improved advising and counselling; the provision of adequate library resources; and the development of an institutional strategy in computing and networking. (Recommendations 76 to 79)

#### HUMAN RESOURCES

The success of the University in fulfilling its ongoing responsibilities and in undertaking any strategic initiatives will ultimately be determined by the commitment, skills, and enthusiasm of members of the community — and by the degree to which a climate of trust and respect, as well as open and candid communication, exists within the institution as a whole. Other factors that will be important to the success of the University include a sense of community and common purpose, and the belief that one's time at work is well-spent and well-rewarded.

A comprehensive human resources management plan is essential to the achievement of these objectives. The plan must include a well-articulated University human resources management philosophy that helps to define the climate in which the community wishes to work. This philosophy should outline what employees can expect from the University, and what the University expects in return. The human resources management plan must also address issues related to professional development, assessment of performance, compensation, and terms of appointment. (Recommendations 80 to 93)

An important element of the human resources management plan is to ensure that all members develop and use their particular gifts to further our collective mission. In the case of faculty, this will involve slightly increased role differentiation. We must be wary of pursuing this course too far; in a first-rate university, most faculty must be active researchers and teachers. At the same time, the Commission believes that teaching loads must be more variable in future if workloads are to be equitable and tolerable. The balance between service, teaching, and research activity cannot be sought only at the level of the individual; to thrive in hard times, we are obliged also to think in terms of the larger organism. This means, of course, that we must honour the diverse contributions that individuals make to the health of that larger body.

#### ALUMNI

Alumni have a key role in implementing the Strategic Plan. That role is reflected in the mission of the University of Guelph Alumni Association: to sustain and strengthen the University of Guelph. The SPC believes very strongly that increased involvement of alumni will be essential if the University is to realize its very ambitious vision. (Recommendation 94)

#### PHYSICAL RESOURCES

A reassessment of the nature, quality, and allocation of space for teaching and research will be essential to the realization of our vision. Factors that must be taken into account include adaptation of facilities to the use of new technology; changes in the configuration of classrooms to accommodate small group interaction; the possibility that new large lecture halls, break-out rooms, or labs may be required; space that can be reassigned and/or reconfigured as a consequence of declining faculty numbers (including office space and lab space); and needs arising from the restructuring of academic units. (Recommendation 95)

#### FINANCIAL RESOURCES

Flexibility that is projected to appear in the 1998/99 budget, arising after repayment of SERP, must be protected. (Recommendation 96)

New sources of income must be sought if we are to realize our vision for the University (Recommendations 97 to 99). Priority must be given to the reconfiguration and renewal of our physical facilities, capturing new opportunities in computing and communications technology, developing new initiatives related to learner-centredness, enhancing the infrastructure necessary to support research, and increasing the availability of scholarships, bursaries, and other forms of financial support to students. While it is essential to develop new sources of income, it is equally important to stabilize or enhance income from traditional sources. (Recommendation 100)

#### GOVERNANCE

High priority must be given to streamlining Senate (Recommendation 101). The Commission's concern, however, goes beyond Senate to the whole issue of governance, and in particular the need to ensure that faculty time spent in committee work (like time spent in teaching or research) is well-invested.

### IV. IMPLICATIONS AND NEXT STEPS

A number of the Commission's recommendations have major resource implications. It is not possible, however, to be specific about the budgetary impact of many of the recommendations. Some have the potential to reduce operating costs, while others may increase operating costs. Still other recommendations have the potential to generate revenue for individual units, if not for the University's operating budget.

The Commission has not yet attempted to establish priorities or time lines for its recommendations. This must be done, and advice from the community during the consultation period will be useful in this regard. It is clear, however, that recommendations allowing us to reduce expenditures and deal with reduced numbers of faculty and staff must have top priority and must be implemented as quickly as possible. Action to reduce course offerings (through introduction of a single entry point, alteration of the spring semester, and the review of specializations and courses) is of immediate urgency. Development of a resource allocation process (including associated criteria for assessing quality) must also proceed immediately. Recommendations that will require the expenditure of additional time or resources can only be implemented as these resources are freed from other commitments or new resources are obtained.

Issues of accountability follow from decisions to implement recommendations arising from the strategic planning process. The campus community and external constituencies need to be regularly informed on the progress arising from these decisions. (Recommendations 103 to 105)

*This document is submitted to the community of the University of Guelph for comment and debate. Input will also be sought from external constituencies. The purpose of these discussions is to identify errors and oversights, inconsistencies in the logic of the report and fundamental disagreements with SPC's recommendations. The consultation period will extend over four weeks. Thereafter, SPC will evaluate responses, incorporate changes that are considered appropriate, and submit a final copy of the report to the President. Recommendations that are supported by the President will subsequently be submitted to the relevant governing bodies (Senate and the Board of Governors) for discussion and approval.*



## MAKING THE CHOICES:

## A DRAFT VISION AND ENABLING STRATEGIES

MARCH 7, 1995

*Making the Choices: a draft vision and enabling strategies is the result of many months of study and consultation by the University of Guelph Strategic Planning Commission. During the four weeks following publication, members of the campus and community will have the opportunity for input at a series of public meetings. Following this consultation, the Commission will reconvene. Plans are for the final report to be published later in the spring.*

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## INTRODUCTION

## A. THE PROCESS

The Strategic Planning Commission (SPC) began its work in November 1993, when President Rozanski formed the SPC and instructed it to examine the mission and future direction of the University of Guelph. He made very clear both that the SPC should undertake its task within the context of budget realities, and that he was looking for a vision of continuing excellence. (Details on the charge given the Commission by the President are given in Appendix 1.) The broadly consultative, iterative process that the SPC developed to carry out its mandate, as well as the nature and extent of the Commission's membership, reflects an approach to strategic planning that is unusual in the history of Canadian universities.

To gather information and generate ideas for the first draft of a strategic vision, the SPC appointed more than a hundred members of the university community to eleven task forces which then sought input from many others. Some of these task forces evaluated the environment external to the University to identify trends or forces that could have a major impact on us. Others assessed institutional values; the strengths and weaknesses of academic programs and research; the strengths and weaknesses of services we offer to support students, administration, and the academic enterprise; and the strengths and weaknesses of our human, financial, and physical resources. When all of those reports (and responses to them) were in hand, the SPC embarked upon what it called the "matching process" — matching the strengths and weaknesses of the institution to its values and to information gleaned from the environmental scans. Out of this exercise came *Framing the Choices* and another period of extensive consultation.

The second stage of strategic planning (further elaboration of the vision and evaluation of choices) was assisted by twelve new committees. Once again over a hundred members of the community were involved. These committees dealt with issues ranging from academic structures to collaboration with alumni; all of their reports were widely circulated for comment by the community. These committee reports, and the very extensive comments made on them, as well as on *Framing the Choices*, form the basis of the present report. From all of this work, and a much larger set of recommendations arising from the reports, the Commission has culled what it believes to be an essential set of recommendations, and has embodied these in the present draft of the Strategic Plan.

Making the Choices is a draft version of the final report of the SPC. Its major components are a discussion of the Strategic Vision and a set of Enabling Strategies. Operational details are not provided in this report; many are included in the reports of the different committees and will need to be considered further when decisions on the Strategic Vision and Enabling Strategies have been made. This draft of the Strategic Plan is, of course, subject to revision, following further consultation and debate.

## B. THE COMPONENTS OF STRATEGIC PLANNING

In assessing the wealth of advice that underlies this report, and in attempting to develop a coherent, workable, and strategic plan, the SPC has faced a considerable challenge. We have listened hard to the community and learned much from its wide, sometimes heated participation in the strategic planning process. But it will surprise no one to learn that the voices of a university community often say conflicting things, and

that sometimes those voices (understandably, and often advisedly) would prefer things to remain as they are; it has been the SPC's task, based in large part on dramatic changes now unfolding or forecast by the environmental scans, to reconcile (to the extent possible) the expressed will of the community and the necessity for change.

The matching process has continued to guide us in this effort. From the study of institutional values, the SPC paid special heed to three strong messages:

- We as an institution know that we should do more to foster active learning at the undergraduate level
- We badly want to preserve the current quality of research and graduate education
- We are convinced that a climate of greater trust and more open communication must be achieved.

A successful strategic plan, the SPC understood, would have to reflect those values and concerns.

Among the external forces identified by the environmental scans as having major importance for the University were the following:

- An economy saddled with budget deficits at both the federal and provincial levels that will severely constrain resources available to support education and research
- The globalization of economies and ever-increasing flow of ideas and information across national boundaries
- Revolutionary advances in computing and networking technology that will effect profound change in modes of teaching and learning (as well as research and administrative procedures)
- The growing complexity of relations between people and their environment at scales ranging from local to global, and so the need for interdisciplinary approaches to complex problems
- The demand for universities to be accountable in terms of money spent and "value added"
- Complex changes in the structure of the population, the workforce, and the workplace — e.g. increasing age and cultural diversity of the population, high unemployment, part-time employment, and multiple career shifts — and a growing demand for life-long learning as well as accessibility and flexibility in higher education

The interaction among these forces will have important consequences for the University of Guelph and for higher education generally. The basic conundrum is clear. Although demands upon universities are increasing, public resources are dwindling; in the catch-phrase of the day, we are being asked to do more with less. These forces also point to a future of greater intellectual and global interdependence, rapid change, and the need for greater flexibility and improved articulation in the whole of our educational system. But these two fundamental realities — increasing demand/dwindling resources and a shift to interdependence — combine to suggest at least part of the answer to our conundrum. To survive and prosper in this climate, universities must forge closer and more extensive links with business, industry, government, and one another. To accommodate reductions in staff and faculty numbers, and to meet societal needs, we must — through collaboration and the wisest possible use of technology, time, and expertise — become more efficient. The SPC's attention to the change these forces will require of us underlies the whole of the report.

Consonance with institutional values and with requirements for change occasioned by the external environment are vital to the success of a strategic plan; equally important is building on strength. The strategic plan proposed in this report is founded on the following elements of strength:

- Our considerable and wide-ranging academic strengths, which position us well for interdisciplinary work and for continuing to attract undergraduates, graduate students, staff, and faculty of exceptional quality

- Our well-recognized programs in agriculture and veterinary medicine and our breadth in the life sciences generally
- Our healthy continuum of pure and applied research, which will allow us both to serve society through the pursuit of truth (which is critical especially for the long term) and to respond to problems and opportunities of a more immediate nature
- Our reputation as a caring, attractive place in which to live, study, and work
- The dedication of our people: alumni, faculty, staff, and students

The weaknesses of the University are largely a consequence of limited resources. Sometimes, however, they are a function of not channelling our energies in the most appropriate or innovative ways. The SPC's task has been to suggest ways of reorganizing and reorienting ourselves to improve our performance where it is most critical for us to do so, even in an era of shrinking resources.

## C. PREVIOUS PLANNING EFFORTS



Successful strategic planning also requires an assessment of the outcomes of previous planning efforts. It seeks to address failures of implementation in areas that remain critical, and to sustain or build upon our earlier success. Thus, the work of the SPC follows very deliberately from the active and purposeful planning that the University has pursued since its inception. Many of our present themes are sounded in the 1972 planning document, *The Aims and Objectives of the University*; others emerge or approach current levels of prominence in *Toward 2000*, our 1985 document. It is worth noting here that while *Toward 2000* did not recommend a radical shift in direction, the relative emphases within the University had clearly changed, as they must continue to do a decade later.

In the area of undergraduate education, *Toward 2000* focused on the development and adoption of the learning objectives. Our long-standing commitment to the development of both the intellectual and the personal growth of our students was re-affirmed. There was a call to strengthen our involvement in graduate education and to continue our strong research commitment. There was also a clear recognition of the need for balance between teaching and research. *Toward 2000* challenged us to incorporate an international perspective in our work, to increase our interaction and cooperation with a variety of external communities (including other educational institutions), to encourage involvement by non-traditional students, to break down the barriers between disciplines, and to develop programs for education throughout life. The overarching commitment was to strive for excellence in all our activities and to sustain excellence when it is achieved.

Since 1985, we have made considerable progress in responding to the challenges of *Toward 2000*. In 1987, Senate passed specific recommendations to improve liaison efforts, increase the percentage of entrants who are Ontario scholars, and reduce by 20% our attrition rate. The University's success in achieving goals related to the quality of our undergraduate students has been spectacular. In the same year, Senate endorsed a series of proposals arising from the five year plans of the colleges: to increase graduate enrolment by 40%, to increase the proportion of graduate students pursuing doctoral degrees, and to increase the number of scholarship holders. These initiatives, together with the *Toward 2000* objective of increasing the number of graduate programs, have also succeeded admirably.

Also in 1987, Senate called for reviews of academic units — resulting in a successful internal review process, since placed on hold for budgetary reasons — and of non-teaching units. The latter call was met, not without



controversy, by the CRESAP reviews of 1991/93, whose purpose was to increase efficiency and which released a larger share of the University budget to the academic enterprise. Other efforts to enhance the quality of our faculty included the development of a competitive salary package, hiring initiatives such as the faculty bridging scheme and the Academic Career Opportunities for Women program, and the establishment of the Research and Teaching Enhancement Funds. While the gains accomplished by these initiatives were significant and remain with us today, funds to support the continuation of most of these initiatives have disappeared.

A number of recommendations (from *Toward 2000* and other planning documents) related to interdisciplinary and interdepartmental activities. Examples of significant progress in this regard include changes to the B.Comm. and Plant Science programs, the development of the Bio-Medical Science and Environmental Science programs, and the creation of Akademia and the Office of First Year Studies. *Toward 2000* called for a continuing strong commitment to research and specifically encouraged collaborative research ventures with other universities and with industry. The development of research chairs and involvement in Centres of Excellence and other such research initiatives have been remarkably successful. Examples include externally-funded research chairs, as well as such partnerships as the Canadian Network of Toxicology Centres, the Equine Research Centre, the Canadian Aging Research Network, and the Guelph Food Technology Centre.

One of the most important initiatives of *Toward 2000* was the development of the learning objectives. Nevertheless, with notable exceptions such as OAC's Vision 95 and the DVM curriculum review, our progress toward implementation of the learning objectives has been disappointing. Other recommendations related to the quality of undergraduate education — e.g. more emphasis on problem-solving skills and active learning, less emphasis on rote learning — have not been acted on to a sufficient degree. Neither have we made sufficient progress on the improvement of our counselling and advising system. SPC has paid particular attention to these areas in which to date we have made insufficient progress. The charge of *Toward 2000* to encourage involvement by non-traditional students and to develop programs for education through life has been met in part, as witnessed by such initiatives as the increased number of distance courses and the incorporation of Independent Study into OAC. The need to do more in this regard is reflected by SPC's choice of Open Learning as a strategic direction for the University.

From 1988 to 1990, Senate approved three sets of motions that defined institutional responses to the learning needs of specific student populations: international students, entering students, and students with disabilities. These policies have seen the creation of a Centre for Students with Disabilities as well as a more recent (1994) policy on accommodations for students with disabilities. An Office of First Year Studies was created to provide greater coherence to the University's first year program.

The University's senior management structure was realigned to reflect the institution's commitment to increased collaboration between the academic community and student services. Student Services, previously reporting independently to the President, were brought under the Vice-President Academic with the creation of the post of Associate Vice-President Student Affairs, to work in concert with the Associate Vice-President Academic.

## D. THE FINANCIAL CONTEXT

Strategic planning must take into account the current financial realities and the context for future funding. Guelph, like other universities in Ontario, is dependent on provincial grants and tuition to meet most of its operating costs, including the costs of instruction, non-sponsored research, academic and student support, administration, and physical plant operation. The normal source of grants to Ontario universities is the Ministry of Education and Training (MET). Guelph is in the unique position of also having a special contract with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) to support research in six

targeted areas and specific educational programs. The income from the contract represents 19% of the total operating budget (\$198M). In 1994/95 the proportion of the operating budget derived from provincial grants (MET and OMAFRA) and from tuition were 73% and 18% respectively. The remainder (9%) was derived from the OMAFRA service fee, investment income, and miscellaneous department revenues. The high proportion of the operating budget that originates from provincial sources makes the University particularly sensitive to changes in political direction and the financial situation of governments. Over the period 1981/82 to 1993/94, the MET grant per BIU (the weighted enrolment unit on which the grant is based) when expressed in constant dollars, has declined by 15%. The combined grant plus tuition revenue per BIU, again in constant dollars, has declined by 7.5% over the same period. Two other features of the operating budget are noteworthy. First, personnel costs represent the major part of the budget: total personnel costs make up 80% of the 1994/95 operating budget, and personnel in regular full-time positions account for 70%. Second, almost all of the non-personnel expenditures in the budget are identified with structurally committed operational costs; there are virtually no flexible or discretionary funds. Given this degree of inflexibility, the University is particularly vulnerable to changes in future funding.

There are some knowns and a great many unknowns about future funding. Changes in funding may arise from adjustments to the provincial funding formula and federal transfer payments. While the nature of these changes is unknown at present, it seems clear that we are facing substantial cuts; the extent to which such cuts will be offset by increased tuition fees is unclear. We do know that at the end of the Social Contract (April 1996) we will have to deal with a projected structural deficit of \$8.9M, which is being handled within the period of the Social Contract by "Rae Days" and the University's pension holiday. The University's special early retirement program (SERP), approved by the Board of Governors, was introduced to make it possible for the University to meet this reduction. The cost of SERP itself will be borne by the pension fund, the operating budget, and funds released from vacated positions. Many of those positions must disappear in order to address the structural deficit. But it will also be essential to continue to fulfill the functions of some of the positions that become vacant. Provisions were made for about 30% of the funds released by SERP to be used for this purpose when the program was approved.

Vacancies will arise as a consequence of SERP until April 1996; additional vacancies will arise through normal retirements and attrition. Many of these vacancies will arise in staff positions. The total number of faculty positions that will become vacant in 1994/95 and 1995/96 is projected at 142. Plans for refilling all vacant positions must take into account the original conditions of SERP, and these conditions must be integrated with a Five Year Plan that was implemented in 1992/3, when budgetary considerations dictated a reduction in the number of faculty positions. The Provost, in conjunction with the Vice-President's Advisory Council, has identified a small number of faculty positions that must be refilled; others have been frozen, and many (70) have been frozen pending at least the outcome of strategic planning. The net effect is a reduction of 90 probationary and tenured faculty positions — a reduction in the faculty complement of nearly 15%. As a partial offset, the sessional and contractually limited budget has been increased by nearly 20%. If there are no further changes in income, we can meet the structural deficit and free up additional funds. These additional funds, approximately \$7.3M, would first appear in the 1998/99 budget. It must be clearly understood, however, that this figure does not take into account either the threat of reduced income or the increased expenditure arising from inflationary costs, adjustments to salaries, or the filling of any of the 70 frozen positions.

The flexibility in the operating budget that will be created by SERP presents opportunities as well as challenges that are fundamental to this planning process. The opportunities include investments to allow us to pursue new directions, to rationalize our structures, to "re-engineer" our services thereby reducing our long-term operational costs, and to increase non-MET sources of income (e.g. through the development of Open Learning courses). Other opportunities

relate to personnel costs (e.g. filling frozen or reallocated positions and adjusting salaries). The flexibility created by SERP may also prove critical in helping us to survive the impact of any further reductions in provincial grants. The challenges that must be met are considerable; they arise from the reduction in the number of faculty and staff that is necessary to create this flexibility.

In order to reduce reliance on provincial funding, the Heritage Fund was created. Growth of the Heritage Fund occurs through the development of property that is owned by the University and through gifts from benefactors. The capital in the Heritage Fund is held in perpetuity. Investment income is managed in accordance with the Heritage Declaration of Trust by the Board of Trustees. Some of this income is used to protect the fund against inflation (an amount based on the consumer price index). Of the investment income remaining, as much as 90% can be made available to the University — subject, however, to approval by the Trustees and the Board of Governors. Over the past 3 years \$1.25M of the \$2.3M available has been distributed; all of those funds have been allocated to the Capital Fund to repay special internal debts incurred through building and renovations on campus. In fact, the Trustees had intended a 10 year period from the inception of the Fund for capital growth — a period, that is to say, in which none of the income would be distributed. In our present and projected fiscal circumstances, however, the question of investing additional income from the Fund in initiatives described later in this report must be raised. After another decade, income from the Heritage Fund will have increased substantially, even if the available income earned during that period is not returned to the Fund; in the meantime, such income may prove a small, but still critical resource.

## E. AN OVERVIEW OF THE STRATEGIC PLAN

Planning in times like these, and at a place like the University of Guelph, is a cross between nightmare and dream. On the one hand, we have the spectre of dramatic cuts; and on the other hand, we have a great university full of quite remarkably gifted, hard-working, and dedicated people who are poised for further achievement and unwilling to lead disappointed lives. The challenge of the Strategic Planning Commission has been to imagine a reality in which obstacles (and monsters) are overcome, and in which we as a university can achieve what we have in us to achieve.

This is not easy. By far our greatest problem is the fact that we will have fewer faculty and staff, fewer people to do the work that we so badly want to do well. The SPC's approach to this problem is many-faceted. We begin with the assumption that even if our goal were to remain the same — with respect to the overall quality of research, teaching, and service — it would be necessary to do things differently. Even if our intent is to protect the quality we have now, we must be proactive. But let us be clear: our goal is not simply to find some means of coping; our goal, and our serious intent, is to flourish even in adverse circumstances. If we are to cope, if we are to flourish, and if we are to foster through education and research change that will be of critical importance to society at large, we ourselves must surely change.

There are more obvious responses to the problem of declining staff and faculty resources. One is to reduce the number of students. The SPC is in fact reaffirming some reduction in undergraduate numbers, but even the reduction proposed is uncertain since changes to the funding formula may require us to reconsider enrolment targets; we can, in any case, go only so far in this direction without compromising accessibility. A second response might be to increase the teaching load of faculty, but this would almost certainly mean a corresponding reduction in research activity. This response is particularly troublesome, both because research is central to our mission and because it is inextricably bound to the quality of education. A third response might be to strip away all but the most basic or obligatory of our teaching, research, and service functions, and to take on nothing new; but this is clearly inconsistent with our values and our mission as a university. Somehow, we believe, we must protect both the quality of

research and the quality of learning. We are unwilling either to lose our eminence as a research institution or to reduce our commitment to students.

Change is really the only answer. The change proposed by the SPC involves a number of closely inter-related elements, which will — the Commission believes — make it possible both to meet the challenge of declining resources and to continue on an upward path. These elements are embodied in the Strategic Vision and Enabling Strategies. Most important in this regard, and profoundly inter-connected, are the five Strategic Directions proposed by the Commission: Learner-Centredness, Research-Intensiveness, Collaboration, Internationalism, and Open Learning.

A reduction in faculty numbers means worsened faculty-student ratios. Although we begin from a position that is superior to that of most universities in the Ontario system, it will be important to face this problem imaginatively and head-on. We cannot simply pack more students into existing classrooms; neither the rooms themselves nor the responsibility we have to students will permit that simplistic response. We must employ more sessional and contractually limited faculty, to address both faculty-student ratios and flexibility within existing and future budgets. We must make better use of GTAs, peer learning, and self-reliant learning; and we must make better use of the instructional time of faculty, relying less on lectures and more on other instructional strategies. (Strategies to improve such use relate also to the strategic direction of learner-centredness.) And, finally, we must reduce the number of course offerings. Strategies to achieve such reduction include a move to fall-entry only for new undergraduate students, prior learning assessment, a course credit system, and curriculum review within the context of program rationalization. All of these strategies serve other important needs as well. The reduction of course offerings, while a concern with respect to the diversity of offerings and class size, must be regarded within the context of existing curricular richness, duplication, and recommendations to enhance the learning that takes place outside of classes.

A reduction in staff numbers will necessitate greater efficiency in organization and systems, increased collaboration within the University and beyond, and improved training programs that focus on strategic objectives. The wise use of technology will be a critical means of coping with the reduction of staff and faculty numbers, of addressing the problem of library resources, and of supporting service, teaching, and research functions.

In rethinking the way students learn, the SPC has been motivated by something other than financial duress. All of the research we have seen makes clear the need to foster self-reliance and active learning in our students. That this necessity should be so compelling now, when more large lectures seem the obvious response to worsened faculty/student ratios, is a cruel irony. We can, however, reduce the number of hours that faculty and students spend in those large lectures, and use that time to support the four elements of the learner-centred agenda: self-reliant learning, the research-teaching link, skill development, and experiential learning. Computer-assisted instruction will not save faculty time or money in the short term, but for some kinds of learning it is demonstrably more effective than lectures, and there should be savings down the line. More independent and collaborative research by students will never save faculty time; it is obviously not a strategy for off-loading, or for the abandonment of our students to their own devices. Faculty time freed up by a reduction in lecture hours can be converted to the facilitation of small group work, research supervision, and curricular development, for which somehow we must make still more time.

The Commission's intent is to maintain the present balance between teaching and research effort over the University as a whole. Strategies to preserve and enhance research-intensiveness involve a focus on the quality/impact of research (rather than quantity); a dedication to the principle that we must support research excellence wherever and whenever it may arise; hiring with a view to research potential as well as teaching effectiveness in all academic areas, and nurturing the research careers of new faculty; facilitating and focusing effort on particular, strategic opportunities that may arise; and taking full advantage of existing



and new opportunities for external funding. (In making this last point, the Commission is painfully aware of the challenge this will represent in the context of threats to research funding at the federal level.)

To achieve our goals of learner-centredness and research-intensiveness, it will also be important to ensure that all members of the University develop and use their particular gifts to further our collective mission. In the case of faculty, this will involve slightly increased role differentiation. We must beware of pursuing this course too far; in a first-rate university, most faculty must be active researchers and teachers. At the same time, the Commission believes that teaching loads must be more variable in future if workloads are to be equitable and tolerable. The balance between service, teaching, and research activity cannot be sought only at the level of the individual; to thrive in hard times, we are obliged also to think in terms of the larger organism. This means, of course, that we must honour the diverse contributions that individuals make to the health of that larger body.

An essential feature of the Strategic Plan is a thorough review of curriculum, with a view not only to reducing course offerings, but also to the internationalizing of the curriculum and to the furthering of our learner-centred agenda. Another essential feature of the Plan is a set of recommendations related to departments, colleges, and councils. The goal here is to facilitate interdisciplinary activity and to realign or rationalize structures. Councils are proposed essentially as a means of bringing together relevant chairs, for the purpose of making decisions in areas where no single chair can have authority; while councils may be regarded as adding an unnecessary layer of bureaucracy, the Commission suggests that this is not the case.

A resource allocation process is proposed that will integrate the activities of the councils with other activities based in departments and colleges. Critical here is the need to ensure that departments know what responsibilities they have been resourced to meet, and the need to provide resources on the basis of both quality and level of activity. A resource allocation process for non-academic units is proposed that will reflect the University's need to focus on its strategic directions. For both academic and non-academic units, thorough reviews are proposed that will assist the University both to strengthen its performance and to determine where scarce resources are most appropriately focused.

The Plan includes enabling strategies for each of the five strategic directions. Strategies to enhance Collaboration, Internationalism, and Open Learning are intimately tied to the strategic goals of Learner-Centredness and Research-Intensiveness. Collaboration, which is critical also to increased efficiency and effectiveness within the administrative and support functions of the University, is sought at all levels (internal, local, provincial, national, and international) and of all members of the university community. Special emphasis is given to the role of alumni, and to collaboration between academic and non-academic personnel. Strategies to further internationalize the University of Guelph include strengthening the international thrust of the curriculum and increasing opportunities for students to participate in exchange programs and study abroad. Open Learning (including distance education) is proposed as a means of increasing flexibility and accessibility, of responding to the need for life-long learning, and of generating revenue.

The Strategic Plan also addresses the clear need to diversify and increase funding. It calls for a major fund-raising campaign, for the support of appropriate revenue-generating activity at the unit level, for the use of available income generated by the Heritage Fund, and for sustaining and enhancing traditional sources of funding. It also calls for a strengthening of our scholarship programs and other means of providing financial support to students; this will be a priority of the fund-raising campaign, and is critical in an era of increased tuition fees. It argues that we must retain flexibility in the budget (arising out of SERP) in order to meet financial challenges that lie ahead and to support both physical renewal/reconfiguration (especially of classrooms and laboratories) and the strategic directions of the University. It calls for the introduction of a Learning Enhancement Fund and a Research Enhancement Fund.

Another part of the SPC's concern with the

reduced complement/workload problem relates to administration and committee work within the University. Particularly as we enter a period of significant change, we must consider very carefully how to minimize time spent in committees; to this end, a streamlining of Senate is recommended. A climate of greater trust and open communication will be necessary if we are to achieve efficiency and learn from one another. Finally, the Commission recognizes that it will be critically important to design and implement a human resources management philosophy. Only if our people feel valued, heard, and empowered, only if they share a sense of common purpose and excitement, will it be possible to achieve our ambitious vision for the future.

## II. THE STRATEGIC VISION

### A. MISSION STATEMENT

A mission statement is intended to define the University of Guelph in ways that are inspiring to faculty, staff, students, alumni, and the external community. It is oriented to the future. It should serve as a unifying force and provide direction that is responsive to the external environment, as well as to the values and strengths of the University. It should affect individual and group behaviour within the institution and generate support within the external community.

#### RECOMMENDATION # 1:

*The University of Guelph should adopt the following as its Mission Statement:*

*The University of Guelph is a research-intensive, learner-centred university. It offers a wide range of high quality undergraduate and graduate programs in the arts and humanities, social sciences, and natural sciences. Building on these core disciplines, it also has a strong commitment to excellence in its interdisciplinary programs, in a selected range of professional and applied programs, and in agriculture and veterinary medicine as areas of special responsibility.*

*The University of Guelph is dedicated to the discovery, sharing, and application of knowledge. In seeking to uncover and respect the diversity and profound interconnectedness of life, the University is both practical and idealistic. Its core value is the pursuit of truth. Its aim is to make a real difference in Canadian society and in the world, to enlarge the scope and enhance the quality of human life, and to bring imagination, skill, and a sense of responsibility to bear on the task of caring for our natural environment. Both in its research and in its teaching programs, Guelph is committed to a global perspective.*

*The University is animated by a spirit of free and open inquiry, collaboration, and mutual respect. It attracts students, faculty, and staff of the highest quality and is committed to maintaining for all members of its community an environment that is hospitable, safe, supportive, equitable, pleasurable, and intellectually exciting. The University of Guelph is determined to put the learner at the centre of all it does, recognizing that a great university is a community of scholars, that research and teaching are intimately linked, and that learning is a life-long commitment. The University eagerly promotes collaboration among undergraduates, graduate students, faculty, staff, and alumni, as well as with our neighbours, other educational institutions, government, business, and the international community.*

*Guelph is committed to the highest standards of innovative pedagogy, to the education and well-being of the whole person, to meeting the needs of all learners in a purposefully diverse community, to the pursuit of its learning objectives and measurable outcomes, to the fostering of creativity,*

*to an ethos of active learning, and to the integration of skills and critical inquiry in a carefully designed curriculum. A central concern is the need to educate students for life and work in a rapidly changing world. The University of Guelph welcomes public scrutiny of the fulfilment of its mission, especially by the people of Ontario, to whom it is accountable. ACTION: Senate and Board of Governors*

### B. THE EVOLUTION OF THE UNIVERSITY

[The following section of the report is intended to augment the Mission Statement, on occasions where its inclusion may be deemed appropriate.]

The University has evolved dramatically since its inception in 1964. The Act to incorporate the University of Guelph, as amended in 1965, states that "The objects and purposes of the University are (a) the advancement of learning and dissemination of knowledge including, without limiting the generality of the foregoing, the advancement of learning and the dissemination of knowledge respecting agriculture; and (b) the intellectual, social, moral, and physical development of its members and the betterment of society." The three founding colleges — the Ontario Agricultural College, the Ontario Veterinary College, and the Macdonald Institute — had a well-established tradition of excellence in research, teaching, and service to society. As a result of rapid growth in the late 1960s and the need for balance, the University re-imagined itself around the seven colleges that exist today.

As noted in *Toward 2000* (our 1985 planning document), the decision to reconfigure was based on the belief that the University could achieve its aims "only if it accorded equal academic and administrative status to the seven broad areas of study: agriculture, arts, biological science, family and consumer studies, physical science, social science, and veterinary medicine." By 1984, in its submission to the Bovey Commission, the University of Guelph described itself as follows:

*The University of Guelph has had, and will continue to pursue, as a primary objective, the maintenance and enhancement of quality in all of its programs and will strive for a climate in which each unit aspires to academic excellence. We are committed to, and dependent upon, the maintenance of distinguished and distinctive programs in the basic disciplines of the arts and sciences. These disciplines provide the base upon which our other academic endeavours are built . . .*

The results of this history and these decisions have been impressive. The University of Guelph now offers a wide range of excellent programs and generates world class research across all areas of study; in addition, it maintains a strong tradition of service to society and a commitment to integrating its teaching, research, and service functions.

The founding colleges have changed, and grown in quality, as fields of study have been redefined in response to societal need and as a consequence of interaction among the seven colleges. With a record of increasing excellence also in the core areas of arts, social science, and science, the University of Guelph has become one of Canada's finest universities. The calibre of the University is reflected by the stature, achievements, and commitment of its alumni. The quality of our undergraduate student body is now among the highest in Ontario and Canada; our graduate programs are ranked in the highest category by the Ontario Council on Graduate Studies; and our researchers continue to distinguish themselves in national and international competitions. The University of Guelph's determination to promote creativity and research excellence wherever its potential may arise has been critical to our success. Guelph is now a leading research institution with a broad range of achievement, as evidenced by the level of external funding for research, by more than a dozen externally-funded research chairs, and by numerous honours, including Governor General's Awards for Literature, major exhibitions for its Fine Arts faculty,

fellowships in the Royal Society, Orders of Canada, and recent Polanyi prizes in Physics and Chemistry. Guelph's faculty have also shown themselves to be among the country's most effective teachers, as demonstrated by our large number of 3M Teaching Fellows and other teaching awards.

The University's commitment to the education and well-being of the whole person is evidenced through its development of the Learning Objectives, approved by Senate in 1987. These objectives have served, and will continue to serve, as a challenge and guiding force for the development of all undergraduate programs on campus. Faculty and staff commitment to the development of students and the quality of student life is evident too in the supportive environment for which this University is so well-known.

The evolution of the University from its founding colleges, with their emphasis on service to society, has resulted in a widespread recognition of the importance of collaboration with external bodies, and in the development of important applied research programs in such areas as agri-food, animal health and well-being, the environment, biotechnology, gerontology, and work-family relationships. The unique relation that the University has had with OMAFRA has been a significant factor in the development of several of these areas. Guelph is a leader among Canadian universities in the biological sciences, in which a large number of our faculty work with great distinction. The quality of faculty working in the physical sciences, arts, and social sciences is equally impressive. Besides strong, innovative research and teaching programs in its core areas, the University has developed a wide range of interdisciplinary research and teaching programs. Among its many fine graduate programs, the University includes a number of integrated professional degrees.

For all of these reasons, the University of Guelph has become a highly desirable home for both undergraduate and graduate students. By providing a safe, supportive environment and more residential accommodation than any mid-sized Canadian university, Guelph has attracted a high proportion of recent high school graduates. The beauty of the University of Guelph campus and of the surrounding countryside, and the rich cultural opportunities of the University and its environs (including Toronto and Stratford), are additional elements of the comparative advantage that Guelph enjoys. Our proximity to a number of other universities has been a source of strength, and will become increasingly important as Guelph and its sister institutions, including colleges, move to collaborate more extensively in the years ahead.

As the demographics of Canadian society and our student population change, as Canada and the world change and confront new challenges, and as global interaction intensifies, the University will need to adapt while holding fast to its essential values. Our dedication to free and open inquiry, to a global perspective, to an appreciation of diversity, to educating students for change, and to life-long learning will be critical in this regard. As the rate of change in our external environment continues to accelerate, the University must rise to meet the challenges that such change presents. These challenges will be economic, cultural, and intellectual — and they will, indeed, be great. In meeting them, we must rely on the best efforts of all members of the community — faculty, staff, students, and alumni — and on a spirit of mutual respect and increased collaboration, both within the university community and beyond. The current prestige of the University of Guelph, and, more importantly, the real quality on which that prestige is founded, CAN be preserved and enhanced in the years ahead. Our evolution and mature status as a university of wide-ranging programs and real distinction have positioned us well for the future.

### C. STUDENT POPULATION

The number and the characteristics of the students who join our academic community will obviously have a major impact on the character of the institution.

#### RECOMMENDATION # 2:

*In the absence of significant change in the funding formula, undergraduate enrolment should decrease to approximately 10,000 FTEs by Fall*



1998 as currently planned, and graduate enrolment should be maintained or enhanced wherever possible.  
**ACTION: Provost**

In Fall 1993 undergraduate enrolment stood at 11,148 FTEs, and graduate enrolment at 1,568 FTEs—a distribution of 88% and 12%. An undergraduate enrolment of 10,000 in Fall 1998 would represent a decrease of approximately 10% (or a decrease of approximately 7% from Fall 1994). This change may help to offset the decline in faculty numbers.

Growth in graduate enrolment toward the previous target of 2000 FTEs still seems appropriate for a research-intensive university. Continued increase in the number of graduate students will, however, represent a major challenge in the face of both declining faculty numbers and projected decreases in research funding. An increase in research funding, some reallocation of internal resources for support of graduate students, and additional faculty effort in teaching and advising graduate students will be necessary to support continued growth in graduate enrolments.

#### RECOMMENDATION #3:

To ensure that the quality of entering undergraduates and graduate students does not fall below currently high levels, the University should maintain its support for liaison activities, attend even more carefully to public relations generally, and assign a high priority in a major fund-raising campaign to a strengthening of our scholarship programs.

**ACTION: Associate Vice-President Academic**

In most of our programs, the academic quality of students admitted to Guelph — as reflected in admission averages and the number of Ontario scholars — is very high. Our very effective liaison program, the support we offer to students especially in first year, and the quality of our academic programs and faculty have contributed to this success. But we are entering a more competitive era, and it will be critically important to ensure that our message is getting out to students. Universities that have been less vigorous than Guelph in their liaison efforts are now recognizing more clearly the importance of such efforts, and we cannot allow ourselves to become complacent.

Especially in view of rising tuition costs, it will be necessary to offer more and better financial support at both the undergraduate and graduate levels if we are to attract the best students.

#### RECOMMENDATION #4:

The University should continue to emphasize its residential character and its focus on recent high school graduates from across the province, while at the same time promoting its ability to serve the needs of students wishing to access our programs from a distance.

**ACTION: Provost**

The investment in residence space and the appeal Guelph has for students who have recently graduated from high school suggest that Guelph should continue to focus on these students. However, substantially increased tuition fees could result in more students finding it necessary to live at home. This represents a challenge to a university that has invested heavily in residences.

Expansion of Open Learning opportunities would allow the University to adapt to some of the needs of part-time students. Open Learning will also enable students to access our programs from distance.

#### RECOMMENDATION #5:

All sectors of the University must critically assess their programs, services, facilities, and general climate to ensure that students of all cultural backgrounds are supported and feel supported in their education and development.

**ACTION: All line management; Director of Human Rights**

#### RECOMMENDATION #6:

To enhance accessibility for economically disadvantaged students, the University must assign a high priority in a major fund-raising campaign to a strengthening of our bursary program and the provision of additional forms of financial support.

**ACTION: Associate Vice-President Academic**

#### RECOMMENDATION #7:

The representation of people of colour and aboriginal people in our student body should be increased, and the appropriate on-campus support should be provided.

**ACTION: Provost**

The majority of students who are attracted to the University of Guelph come from outside of the main population centres in Ontario. While the University is less culturally diverse than institutions in large population centres, we are more diverse than the communities from which most of our students originate. One of our educational strategies focuses on the need to help our students develop a global and international perspective. Increasing the cultural diversity of the student population is one element of this strategy; it is, of course, desirable for other reasons as well, including equity. But having recruited a more diverse student body — and, indeed, in order to recruit effectively and responsibly in the first instance — we must ensure that our campus is welcoming and hospitable to all students. Our curriculum and library collection should be examined to ensure that they reflect a variety of cultural voices. Further, it is essential that we remove barriers to full participation and any remaining elements of interpersonal or systemic racism or discrimination.

It may be argued that our student population is likely to become more diverse in any case, as the demographics of Ontario and Canada shift; whether this change in the student population evolves automatically or by design, a hospitable environment will be essential. But another critical issue arises in this context. The increasing cost of post-secondary education is likely to limit access for an increasing proportion of students, including people of colour and aboriginal people. In response to this challenge, the University of Guelph must explore new ways to assist those students most in need — including new scholarships and bursaries, on-campus employment (perhaps linked to experiential learning), and differential residence fees. Profile forms can be used to identify promising students whose grades fall slightly below the cut-offs, for reasons that may include their socio-economic background, and to identify promising students from the Guelph area who cannot afford to pursue their studies elsewhere.

### D. DISTRIBUTION OF STUDENTS AMONG UNDERGRADUATE PROGRAMS



The distribution of students among the major groups of undergraduate degree programs is also a defining characteristic of the institution. Guelph has fewer students in Arts and Social Sciences and more students in Science, including the applied sciences, than do most Ontario universities.

Within the undergraduate programs our mix in Fall 1994 was as follows:

B.A. Sc.	6.9%
Professional	13.4%
Science	40.9%
Arts & Social Science	35.9%
Non-degree	2.9%

NOTE: "Professional" includes BSc (Engl), DVM, B.A., and the two HFAA majors. "Science" includes BSc, BSc (Agr), BSc (HK), and BSc (Env). "Arts & Social Science" programs include BA and the four Business and Commerce majors. "Non-degree" includes Unclassified and General Studies, where students are concentrated in Arts and Social Science courses.

The enrolment reduction proposed in the previous section is not intended to change in any substantial way the undergraduate mix detailed above. Over the past decade there have been shifts in enrolment in the different programs, but the enrolment within Science construed broadly, relative to Arts & Social Science, has remained constant — amounting to nearly 60% of the undergraduate program enrolment. Substantial adjustments to this mix (in either direction) could only be accomplished by substantially altering the proportion of faculty in Science, relative to Arts & Social Science, and by changing the nature of instruction provided and/or the kind of teaching space available.

The Commission is not aware of any compelling reason to change the current distribution of students among the major undergraduate programs. The student mix is essentially a by-product of management decisions about balance, resource allocations,

and cut-offs. Student mix should not be determined *a priori*. Elsewhere in the report, the Commission recommends criteria for the introduction, continuation, or elimination of courses and programs. Issues of societal need will have an impact on this process. Where it is clearly appropriate to consolidate and/or to close specializations — or open new ones — we must do so. Such decisions might, of course, change the relative distribution of students.

### E. STRATEGIC DIRECTIONS



Formulation of strategic directions has followed from the examination of the external environment, the review of our institutional values, the assessment of our strengths and weaknesses, and the formulation of our mission statement. For the purpose of this report, we define strategic directions as those key issues to which we must pay greater attention if we are to realize our mission. Further, we distinguish between incremental operational issues — the continuation and improvement of most of what we currently do — and strategic directions. Action on appropriate strategic directions, together with the maintenance of "operational" activities, will ensure that we can carry out our mission effectively.

The strategic directions that are proposed have several common characteristics. They have potential for all academic areas of the institution, not just a subset of departments or specializations. They are of a continuing, long-term nature rather than involving a single act or decision. They represent our vision of what must be done to cope with the challenges of the near future, in the context not just of what we do but of how we do it. Specific recommendations related to the strategic directions are to be found later in the report. The strategic directions are not discussed in any order of importance.

#### RECOMMENDATION #8:

The University of Guelph should adopt Learner-Centredness, Research-Intensiveness, Collaboration, Internationalism, and Open Learning as its five Strategic Directions.

**ACTION: Senate**

#### 1. The Learner-Centred University

The University has an opportunity to enhance its reputation for excellence in education through the implementation of a strategy that places increased emphasis on self-directed learning, the research-teaching link, skill development, and experiential learning. In these four ways (the critical elements of a learner-centred agenda) we can help to prepare our students for life-long learning, professional and academic careers, and citizenship in society. The signature approach to work at the University of Guelph is the purposeful integration of research and teaching, under the term *learning*.

The University of Guelph is committed to undergraduate and graduate educational experiences that are designed, delivered, and evaluated to maximize student learning. These experiences are intimately tied to the creative research done by faculty, since the processes and results of research, when shared with students, enhance the learning of all. We seek to involve all students in academic experiences in which they can learn the skills of disciplinary and inter-disciplinary inquiry that are essential to ongoing self-reliance. At an early stage, students should begin to learn that research means real people reading, thinking, testing, and challenging — as old facts, theories, and interpretations are explored and evaluated and give way to the discovery or development of new ones. The extent of the student's own engagement in research should increase as experience is gained and methodological expertise is developed.

The development of self-reliance and the ability to work with others are critically important goals. Both are served when we require students to engage in research and group projects; moreover, the critical thinking and problem-solving skills required for success in the world of work depend upon the development of these capacities. Similarly, skill development (at the expense of proliferating factual content) should be emphasized more strongly: it gives students what they will need for the future. Experiential learning — or learning by doing — also fosters self-reliance and cooperation with

others. It requires the further development of a curriculum that fosters active, hands-on learning; it involves laboratory experiences, the use of interactive software, writing, and creative work. In part because experiential learning also means co-op work terms, internship programs, volunteer work, practica, and field work, this initiative is very important to the transition from University to the workplace.

Faculty, staff, and student time must be used as effectively and imaginatively as possible in the learner-centred university. If, as the research insists, lectures are less effective as multi-purpose learning sites than we have commonly supposed, fewer hours should be spent in them — and more hours in other sites. Lectures can provide potent educational experiences, challenging and exciting our students. But they should be combined with other teaching strategies, to provide an environment in which students will develop academic and personal competencies that empower them to assume increasing responsibility for their own learning. We must structure the curriculum to allow our students time for reflection, creativity, and the pursuit of excellence in all their tasks. And we must all feel free to experiment.

Learner-centred education represents a further development of the spirit already captured in our ten Learning Objectives: Literacy, Numeracy, Sense of Historical Development, Global Understanding, Moral Maturity, Aesthetic Maturity, Understanding of Forms of Inquiry, Depth and Breadth of Understanding, Independence of Thought, and Love of Learning. Nevertheless, the adoption of a more learner-centred approach to education will require a significant change in the manner in which we operate. It will take time, money, good will, and dedication to effect that change. Both faculty and students will need to re-evaluate their approaches to education, and significant resources — including faculty time — will have to be freed up. The challenge of providing such resources in the present climate of fiscal constraint is indeed formidable. But the Commission believes that the challenge can be met, and that the future well-being of our students requires no less than a dedicated commitment to bring about such change.

#### 2. The Research-Intensive University

The term "research-intensive" distinguishes University of Guelph from many other universities. It suggests our unusually high level of research activity, and is meant also to underscore the integration of inquiry into all aspects of academic life. Research-intensiveness is a core value of the University and a source of great institutional pride. It is proposed as a strategic direction because it will be increasingly difficult to find the time and money needed to support research in the future — and because the reaffirmation of our commitment to that goal is regarded by the Commission as essential. The pressure to focus research activity in a small number of assigned areas will be considerable and must, the SPC believes, be vigorously resisted. It runs contrary to our ideals as a learner-centred, research-intensive university.

Research is an act of enlightenment for society, and an investment in ideas and people. It may be considered as having three dimensions. One relates to discovery: creative and scholarly inquiry that reflects our need as human beings to confront the unknown and to seek understanding for its own sake. A second dimension relates to integration: giving meaning to isolated facts, making connections across disciplines, and placing specialized knowledge in larger contexts. The third dimension is the application of knowledge to solve problems of consequence to society. Each of the three dimensions of research may be pursued by investigators working alone or in collaboration with others. The University of Guelph has great strengths in all three dimensions of research. The role of each of these dimensions, and the synergy between them, must be protected.

Traditional measures of research-intensiveness tell us very little about the degree to which research has been integrated into the educational process. Efforts made to engage students with research, as well as scholarly activity that takes such integration as its immediate goal, are critical to research-intensiveness as the SPC conceives it. Both address the ideal of a learner-centred, research-intensive university — the benefits and special character of which cannot be



found in institutions focusing more single-mindedly on either teaching or research.

External research funding (involving peer review) is often used as a measure of research-intensiveness, and by this important measure the University of Guelph currently fares very well. One obvious limitation of the funding measure is that not all research is dependent upon external funding. An alternative approach is focus on research output (as opposed to financial input) and, more importantly, on the impact and quality of research. The danger of output measures is an emphasis upon quantity; paper-counting is to be avoided, particularly in an era of constrained resources. Even citation-counting, which attempts to measure impact, can be unreliable; the impact of the most important research may be delayed, and inferior work (perhaps because of the nature of the field) may attract more immediate attention. Thus, quality is a necessary pre-condition of any research whose impact we would judge favourably. Notwithstanding the difficulty of assessing impact and quality, it is proposed that the University of Guelph define its research-intensiveness (and evaluate research) on the basis of both funding AND impact/quality.

In the last decade, external funding for research and the impact/quality of our research, together with the number and quality of the graduate programs we offer and the graduate students we train, have increased dramatically at the University of Guelph. This is a major achievement. It will, however, be increasingly difficult to sustain this level of research-intensiveness in the face of declining faculty and staff numbers, erosion of government support for research, and increasingly fierce competition for funding from external granting agencies.

Despite resource constraints, opportunities to pursue new directions in research arise continuously. The University, in addition to upholding the individual researcher's choice of direction, must identify and develop opportunities of strategic importance. Partnerships with organizations in the public and private sectors will become increasingly important in the context of a highly competitive global economy. Such partnerships will allow the graduate students involved to extend their preparation for careers outside the University. They will also provide access to expertise and facilities not available on campus — a significant advantage, as faculty numbers shrink and other resources become more constrained. The fundamental requirements for high academic quality and for sharing the results of research will, of course, need to be respected in these partnerships.

Increasingly, the priorities of funding agencies, and the problems that researchers are being asked to address, call for collaboration. Catalyzing such transient, problem-based interaction is one of the keys to great innovation — and should be an important part of the mandate of the Office of Research and the Research Board. In addition, the development of skills necessary for successful collaboration should be incorporated more fully into the education of researchers, particularly at the Ph.D. level.

A special collaborative relationship that has evolved in response to the changing needs of rural Ontario is the partnership between the University and OMAFRA. The level of support that this ministry provides to the University places Guelph in a unique position among Canadian universities and contributes significantly to the current level of research intensity. This relationship is a source of pride and mutual benefit to both the University and the Ministry and must continue to be fostered.

In the face of constrained resources, the University cannot hope to achieve similar levels of accomplishment in all of its research endeavours. Our research and graduate education must continue to support our areas of special responsibility. Beyond this, the University has two choices: to limit support to specific subject areas, or to support excellence wherever it arises. The latter choice was clearly articulated in *Toward 2000* and has contributed to the eclectic mix in graduate programs and research that currently exists at the University. Diversity in research and graduate education supports the fundamental responsibility of the University for the acquisition of knowledge in all its disciplines and is crucial to the development of skills in inquiry among undergraduates. Such diversity also allows the University to respond to changing societal needs. Implicit in such a focus on excellence is a recognition that new areas of strength and leadership in research will evolve as others diminish in

significance. Research of high quality must be recognized in whatever area and at whatever stage of a faculty member's career it arises. Scarce infrastructural resources must be directed to support these areas of excellence. Increasing rigour in the assessment of research, the need to focus scarce infrastructural support on the most effective research, and shifts in the nature of research that is supported externally will mean difficult choices. Strategies to preserve a compassionate, creative research environment will be essential as these choices are made.

### 3. Collaboration

Collaboration is not typically regarded as an end in itself. It is proposed by the Commission as a strategic direction because to pursue that direction vigorously — as we must do, if our mission is to be achieved — will require a concerted effort and a change of mind-set throughout the University. It is an essential coping strategy, and a means of achieving more than can be accomplished alone. In educational terms, however, it may also be an end in itself. The competitive orientation or focus on individual achievement that has characterized universities in the past will no longer suffice; collaboration, or cooperation, is now vital — something we must learn more about, something we must help our students to learn.

Clearly, it is important for our intellectual work. Collaboration is important both within and between disciplines. The need to promote interdisciplinary teaching and research is made apparent by the increasing complexity and interconnectedness of the problems both university faculty and graduates in the workplace will be called upon to address. The 'scholarship of integration' — including linkages within and between the sciences, the social sciences, and the humanities — will be critical for life in the twenty-first century.

Collaboration is a strategy that must become more prominent in all of our functions, if we are to flourish in hard times. It is a strategy to be enacted on campus and off, locally and internationally. It means (among many other things) working much more closely with alumni, and with other educational institutions, government, and the business community. Collaboration is not a new idea at the University of Guelph. It has, for example, been a strategy of choice in many of our research endeavours. But we must be still more collaborative in the future, particularly with respect to undergraduate education, support services, and infrastructure.

The need to reinforce the partnership between the academic and non-academic areas of this institution is, perhaps, greater than ever. There is little doubt that our commitment to the education and well-being of 'the whole person' is an attractive and distinguishing feature of the University of Guelph and one that requires partnerships among all of us who dedicate ourselves to the development of our students. Internal cooperation must include, as a high priority, the need to develop much closer relations than hitherto between the academic programs and all support areas of the institution, as well as among the support areas themselves. Far too often, services in one area are truncated or eliminated without appropriate prior consultation; the unforeseen and unfortunate result is a transfer of responsibility from one unit to another with a loss of efficiency, or no gain.

Collaboration is a key to economic survival. In an intensely interdependent world, collaboration is vital in other ways as well. Only as a part, contributing with other parts to the work of the whole, will the University of Guelph — or individuals within it — be able successfully to serve the interests of both self and other.

### 4. Internationalism

The world faces challenges arising from population growth, resurgent nationalism and factionalism, ignorance, resource depletion, and the deterioration of the environment. Because these challenges are so vast and complex, multidisciplinary, multi-sectoral, and often multi-governmental initiatives are required to address them. Universities can (and should) play a vital role in meeting these challenges. The University of Guelph has since its beginnings had an unusually high level of involvement in international activities, particularly with respect to applied research. The moral imperative that such challenges present to the University was recognized in *Toward 2000*, as was the need to foster greater understanding of international and global issues among our

students.

In a world characterized by the increasing flow of people, ideas, information, capital, and products across national boundaries, we must be prepared to interact in positive ways with other cultures and global issues. The extraordinary capacity for world-wide, computer-assisted communication among individuals and institutions offers exciting opportunities in education as well as research. The University must be in a position to seize these opportunities and to collaborate effectively within the international community of educators and researchers. The increasing flow of ideas, people, and information is also contributing to changes of critical importance that are often poorly understood; foremost among these is the transformation of cultures, which it will be the task of scholars (among others) to address.

Through a wide range of international activities — including exchanges and institutional linkages; research, scholarship, and service related to other countries; research opportunities with foreign co-investigators; international product sales and marketing (academic materials, technologies, etc.); and international conferences — Guelph faculty can bring an increasingly international perspective to their teaching and research, find new sources of research support, and play an important role on the international scene.

Above all, we have a responsibility to foster a global perspective, and knowledge of other cultures, in our students. We should increase the opportunities for our own students to study abroad and for international students to study at Guelph. The development of curricula that incorporate international content and perspectives, and of programs with an explicit international orientation (such as European Studies and International Development), as well as the study of foreign languages, are critical to the internationalization of the University. In these areas particularly much remains to be done.

In assessing opportunities to internationalize, the University of Guelph should, of course, remain open to need or opportunity wherever it may arise around the world; at the same time, we should focus scarce institutional resources on those particular geographical areas where we are best positioned to seize opportunities and to make a significant contribution.

### 5. Open Learning

What do we mean by "Open Learning"? The term itself encompasses the delivery of credit and non-credit courses to students other than those enrolled in undergraduate and graduate degree/diploma programs. The non-credit portion of the Open Learning operation was formerly called "Continuing Education." The credit portion arises from Senate's recent approval of a new Open Learning Program, with an open admission policy, which offers distance education courses. Credits obtained by students registered in the Open Learning Program are "banked"; that is, they are transferable to degree/diploma programs to which these students may subsequently be admitted. Students in the Open Learning Program may be seeking advanced training in a professional field, or may be taking lower-level courses with the hope of transferring credits to a degree/diploma program at Guelph or another institution.

Distance courses developed for our regular students can also serve students registered in the Open Learning Program, multiplying the benefits that will accrue to the institution. Other distance courses may be developed exclusively for the use of students in the Open Learning Program with specialized (usually professional) needs. Because our regular distance courses will serve students registered in the Open Learning Program, and because the development of such courses can assist the University in the delivery of its regular programs, the strategic direction that SPC embraces under the term Open Learning includes the whole of our distance operation as well as non-credit courses. Its thrust, then, is two-fold: service to non-traditional learners, and service to our regular undergraduate and graduate degree/diploma students.

Open Learning is proposed as a strategic direction because it can increase accessibility and service to the community — and because it will bring new money into the University. It opens our doors, extending our intellectual reach and thus our power to contribute to the common good, without straining our physical resources. With re-

spect to our regular degree/diploma students, who will continue to comprise the main body of learners served by this institution, the choice of Open Learning as a strategic direction is a means of increasing curricular efficiency and richness (through expanded and improved distance education courses). Opportunities to generate significant revenue relate to non-credit courses and distance courses taken by students registered in the Open Learning Program. Such opportunities may be concentrated in a limited number of departments and colleges; but a share of all Open Learning revenue will be made available to all academic departments, to aid curriculum development (including the development of distance courses) across the institution.

In the creation of distance courses, it will be critically important to assess what is needed and what is not, because it already exists; we must collaborate in the development and sharing of resources if we are to achieve true excellence, avoid senseless duplication of effort, and enlarge our inventory. To compete in service to professional groups, the University should capitalize on its recognized strengths, identifying those market niches we are uniquely qualified to fill. The wise use of emerging technologies will be critical to our success in the broad field of Open Learning. We cannot, of course, move on all fronts at once; neither can we allow the creation of distance courses (and other Open Learning opportunities) to consume too great a share of our institutional effort. But in a carefully staged, strategic, and collaborative manner we can and should do more than we are doing now.

Like the other strategic directions proposed by the Commission, Open Learning has potential for all academic areas of the institution; like the others, it will require sustained effort. Open Learning will grow at the discretion of departments, as they see the potential for revenue generation and for increased flexibility and efficiency in the delivery of the undergraduate curriculum — as well as the potential to enrich campus-based courses with materials employed in distance courses. The SPC believes that the University of Guelph is well-positioned to respond to an ever-increasing demand for more flexible, life-long learning.

## III. ENABLING STRATEGIES

The term enabling strategies is used to describe changes that must occur or initiatives that must be taken if the University is to realize fully the Strategic Vision that has been described in the preceding section. Enabling strategies are provided for each of the five strategic directions; additional enabling strategies have been identified in the areas of academic programs, academic structures, services to students and academic/administrative support, resource allocation, human resources, alumni, physical resources, financial resources, and governance.

### A. THE LEARNER-CENTRED UNIVERSITY



**OUR GOAL:** The University of Guelph is determined to become increasingly learner-centred, in order to enhance the quality of education that takes place at this University and to empower our students for life-long learning.

#### RECOMMENDATION #9:

*Program committees should encourage methods of instruction that foster self-directed learning. These methods could include mentoring, peer-group learning, and the involvement of undergraduates in research and scholarly activities.*

Self-directed learning can be fostered by mentoring, where the instructor is seen as a resource person guiding the student's own contact with the material. Peer-group learning and the use of senior undergraduate and/or graduate students as supplemental instructors can complement such a teaching strategy.

Departments and program committees



should ensure that students develop an appreciation and understanding of research in their chosen disciplines, beginning in their early semesters, and that senior undergraduate research projects become more common components of undergraduate specializations. Appropriate ways of involving undergraduate students in faculty and graduate research and scholarship endeavours, without placing additional burdens on research funding, should also be explored.

#### RECOMMENDATION # 10:

*Program committees should ensure that the curriculum requires students to participate in small group experiences, such as seminars, laboratory sessions, and projects in which communication and interpersonal skills are purposefully developed, and that the curriculum affords all students the opportunity to develop group skills.*

#### RECOMMENDATION # 11:

*Three versions of a mandatory first-year "inquiry course" should be developed. Each version will emphasize one cluster of knowledge — humanities, social science, or science. These courses will be designed to help students become self-directed learners and will promote an understanding of research and the process of open inquiry as conducted within the broadly defined areas of study.*

**ACTION:** Program committees

This course will be essential in helping our students to become self-directed learners in a learner-centred environment. The emphasis will be placed on introducing students to the methods of research and/or types of inquiry within the relevant cluster of knowledge rather than on specific disciplinary content. Students should learn how to use the relevant resources (e.g. library, computer software) that will be required of them throughout their studies at university and beyond.

By positioning the inquiry course in the first year of studies, we set the tone for our learner-centred environment. The inquiry course will promote an open and critical approach to learning, and so establish the vital links between critical thinking, research, and learning. Other courses can build on the learning skills acquired in this course. The course will draw on resources from across campus — faculty and support services alike — and could be offered in a modular form to accommodate special needs.

#### RECOMMENDATION # 12:

*Certain courses within each program should be "designated writing courses"; such courses should have a significant writing requirement and provide students with careful feedback on writing skills within the context of their various disciplines. The successful completion of a specified number of designated writing courses should be a university requirement for graduation.*

**ACTION:** Associate Vice-President Academic and program committees

Of all of the University's Learning Objectives, Literacy may require the most immediate and systemic attention. The development of writing and speaking skills is difficult in large classes. Yet the demand in the world of work for literate graduates is growing. "Designated writing courses" would intentionally stress writing within all disciplines and provide specific means to monitor and improve communication skills.

The original intent of the Learning Objectives was that these should be the generic outcomes of the baccalaureate experience. Few if any single courses can address all of the Learning Objectives at once. Our limited success in the implementation of the Learning Objectives is a function of inadequate attention to the design of the curriculum as a whole and to the trajectories of students moving through the curriculum. The SPC reaffirms the University's commitment to the Learning Objectives and its responsibility to ensure that the aggregate of courses each student takes (considered with the learning that takes place outside of the classroom structure) will effectively address all of the Learning Objectives. The recommendation relating to designated writing courses is one important dimension of this curriculum-wide approach to implementation.

#### RECOMMENDATION # 13:

*With an increase in the use of computer-assisted instruction, it will be*

*necessary for students to have increased access to computers. In the short term, we should increase computer workstations and make it easier for students to acquire their own computers; in the long term, we should require students to have their own computers.*

**ACTION:** Provost

#### RECOMMENDATION # 14:

*The University should offer a variety of experiential education options including single or two-term work-study options.*

**ACTION:** Program committees

#### RECOMMENDATION # 15:

*Every effort should be made to involve students in peer paraprofessional, volunteer, and part-time positions within the University both to foster their involvement in the University and to provide cost-effective experiential education opportunities.*

**ACTION:** Associate Vice-President, Student Affairs

The intent of this recommendation is to involve students wherever possible and appropriate in university life. The recommendation is not presented as a means of reducing budgets or coping with fewer staff positions.

#### RECOMMENDATION # 16:

*The University should establish an Experiential Education Advisory Group, involving past and present employers — including alumni wherever possible — to advise the University on the placement of students in a variety of experiential education opportunities.*

**ACTION:** President

#### RECOMMENDATION # 17:

*Our spring offerings (including distance courses) should be coordinated with those of other institutions, so that co-op students can make more effective use of the summer session as an academic term.*

**ACTION:** Associate Vice-President Academic to coordinate this review with the program committees and Co-op Office

**NOTE:** Recommendations #14-17 relate to experiential learning, one of the four basic components of our learner-centred agenda. The SPC interprets experiential learning broadly, to include all of what might be termed "learning by doing". Information gleaned from our environmental scans clearly points us in this direction. These recommendations address only the work-related portion of the experiential learning spectrum, which may be less expensive to develop. Not all departments and programs, however, will be able to support this kind of experiential learning. Experiential learning in its broadest sense should be an integral part of each degree program.

#### RECOMMENDATION # 18:

*Students should be encouraged to develop throughout their undergraduate careers a portfolio containing a selection of their work and outlining academic and extracurricular experience.*

**ACTION:** Associate Vice-President, Student Affairs

Self-directed learning involves setting learning goals and monitoring one's own growth and development. To assist this process, students should be encouraged to develop a "portfolio" of learning accomplishments. Academic advising, in a learner-centred environment, can focus on providing guidance and support to students who seek to meet specific learning objectives. A portfolio can provide an important point of departure for appropriate advising. Senior year "capsone courses" can provide an opportunity to reflect upon one's learning, to integrate accomplishments from a variety of areas, and to prepare for a future life of work. Taken together, implementation of the portfolio idea, more effective academic advising, and increased availability of work-study opportunities will enable students to monitor and keep track of their own goals and achievements.

#### RECOMMENDATION # 19:

*The course timetable for all students should include blocks of time to allow for independent study. Curricular changes which reduce lecture hours should encourage instructors to spend time with students in other forms of*

*learning.*

**ACTION:** Associate Vice-President Academic

In a learner-centred environment, blocks of time must be available for independent study. Students presently lose far too much time as a consequence of inefficient schedules; the changes in the slot system recommended by Senate will be important in this regard. Additional study time can be freed up from a reduction in lecture hours, in circumstances where that is seen as contributing to more effective learning.

#### RECOMMENDATION # 20:

*Departments and program committees must assign a high priority to increasing the efficiency and effectiveness of the evaluation of student performance. Examination schedules should allow faculty sufficient time to mark essay questions and should accommodate examinations of variable length.*

**ACTION:** Associate Vice-President

To support the self-directed learner, it will be necessary to think hard about the way we provide timely and useful feedback to students; TSS should assist faculty and departments by discussion and example. The use of evaluation without penalty, as with interactive software, should be increased. Frequent feedback is critical to student learning, but it does not necessarily require that a grade be assigned.

#### RECOMMENDATION # 21:

*All undergraduate and all graduate courses should be evaluated by students. A common set of questions should be introduced university-wide, to form a part of each department's questionnaires.*

**ACTION:** Provost, Joint Faculty Policies Committee (JFPC)

The SPC recognizes the challenge presented for small graduate classes, but maintains that solutions must be found. In a learner-centred university, we must pay close attention to what is and what is not working for all student learners. This is a critical accountability issue, as well. A common set of questions for undergraduates will help the University to gauge its success in implementing the learner-centred approach and to identify areas of strength and weakness, on a comparative basis. A different set of common questions could be used for graduate questionnaires.

#### RECOMMENDATION # 22:

*Program committees and Tenure, Promotion and Selective Increment Committees must foster and reward the four elements of the learner-centred approach: self-directed learning, the research-teaching link, skill development, and experiential learning.*

At present the University has no way of ensuring that its values get enshrined in criteria employed by Tenure, Promotion and Selective Increment Committees (TP&SI), other than through a lengthy process involving JFPC. If we are to do more than simply pay lip service to this recommendation, a reform of the University's tenure and promotion system will be required. This is discussed in the Human Resources section of the report, under Recommendation # 29.

#### RECOMMENDATION # 23:

*A Learning Enhancement Fund should be established at 1.5% of the University's operating budget and protected.*

**ACTION:** President

The learner-centred university cannot become a reality without an investment of substantial resources. Enhancing learning, especially in ways that employ the new learning technologies, takes a major investment of faculty (and often staff) time. If that time cannot be freed up in any other way, it will have to be bought out. The use of faculty expertise to prepare the new style of learning materials will require a paced attack. It will be necessary to set a schedule for doing this, perhaps beginning with selected first and second year courses, and to take time enough to do an excellent job. This transition will therefore take a number of years. Materials can, of course (and must) be developed in collaboration with other institutions, purchased, or acquired in other ways — but that too takes time and money. The University's commitment to being learner-centred will necessitate a continuing concern for staff and faculty development. Instructors will require assistance from Teaching Support Service

(TSS) personnel who are provided with ongoing training in the latest strategies and technologies. Calls upon this fund will be many and varied, and may include the development of distance courses. It will be important to allocate these resources wisely, and always with a view to maximizing student learning. The Learning Enhancement Fund should assign a high priority to initiatives that support not only learner-centredness, but indeed all of the other strategic directions as these relate to learning. The Vice-President Academic's Advisory Council (VPAC) should oversee the use of the Fund.

## B. THE RESEARCH-INTENSIVE UNIVERSITY



**OUR GOAL:** The University of Guelph, which is already a research-intensive institution, seeks to increase the quality and impact of its research efforts, such that we will be among the very best internationally in a number of research areas and a leader nationally in a larger number. The University will not allow other initiatives to compromise its commitment to high quality research.

#### RECOMMENDATION # 24:

*The University recommit itself to provide the necessary elements for innovative and creative research, namely, time to do research, library access in support of research, high quality space in which to engage in research, and infrastructure (including equipment and staff) for research.*

**ACTION:** Research Board

The mandate of the Research Board must include on-going identification of the University's needs in research infrastructure, including library resources. The Office of Research and the Research Board should continue and augment efforts to establish appropriate methods of managing major projects and should provide management training to researchers who are responsible for the management of such projects.

#### RECOMMENDATION # 25:

*The University will hire new faculty with potential to excel in both research and teaching, and will nurture their early careers so that they have the opportunity to reach their potential. The recruitment process must recognize the potential of new faculty to develop a collaborative or an individual research program, or both.*

**ACTION:** Provost, Vice-President Research, Deans, and Chairs

Implicit here is SPC's understanding that we must not predetermine the areas in which our research eminence will reside. This approach to hiring will support excellence in research wherever and whenever it arises; only in this way can we evolve as a university renowned for research excellence, and move toward leadership in new areas. This recommendation does NOT mean that teaching is less important; clearly we must assess teaching potential just as carefully. Nor does it mean that very occasional exceptions cannot be made, where a candidate's ability in either teaching or research is outstanding and the need lies in that direction. Particularly critical is our recognition of the University's responsibility to support researchers early in their careers.

#### RECOMMENDATION # 26:

*The University commits itself to a research environment in which:*

- The researcher's choice of research direction is supported; and opportunities that are of strategic importance to the University's ongoing development as a research-intensive institution are identified and developed in a proactive manner.
- High quality and true innovation in research rather than mere quantity of output are recognized. This is taken into account when a faculty member's contribution to the University is evaluated, and in particular during TP&SI considerations.
- Graduate student supervision and





the commitments required to maintain a competitive research program are appropriately recognized in workload allocations and considerations of advancement and reward.

**ACTION:** JFPC, TP&SI Committees and department chairs

- Interdisciplinary research and specialized disciplinary research are equally valued by the community. Time and resources are made available for writing major interdisciplinary research proposals, and start-up funding is provided to initiate these activities.

**ACTION:** TP&SI committees, the Office of Research, and the Research Board.

#### RECOMMENDATION # 27:

*In the case of faculty who have not pursued or are no longer pursuing a productive research program — perhaps because external funding has become unavailable — and who have the ability and desire to make a research contribution, Chairs, Deans, and the Research Board should support changes in research direction and participation in collaborative projects.*

#### RECOMMENDATION # 28:

*A Research Enhancement Fund should be established under the joint direction of the Provost and Vice-President Research, to support new faculty, research infrastructure, and promising initiatives. The Fund should be established at 1.5% of the University's operating budget and protected.*

**ACTION:** President

The Research Enhancement Fund should assign a high priority to initiatives that support not only research-intensiveness, but indeed all of the other strategic directions as these relate to research.



## C. COLLABORATION

**OUR GOAL:** The University of Guelph will eagerly promote collaboration internally, locally, provincially, nationally, and internationally. It will seek collaboration with other educational institutions, public agencies, business, and industry. All forms of collaboration are encouraged to support our mission, to improve service to our students and the people of Ontario, to increase efficiency, and to develop new initiatives.

### 1. Internal Collaboration

Collaboration and co-operation begin at home. Collaboration must occur across the whole institution — in teaching, research, administration, and service — and must involve students, staff, faculty, and alumni.

#### RECOMMENDATION # 29:

*Tenure, Promotion and Selective Increment Committees should recognize and reward collaborative efforts in teaching and research, and demonstrated collegiality, collaboration, and co-operation.*

**ACTION:** JFPC and Deans

#### RECOMMENDATION # 30:

*The University of Guelph should establish an award (or a similar form of tangible recognition) to recognize the collaborative efforts made by students, staff, faculty, and/or alumni to the improvement of the academic, administrative and/or support activities of this University.*

**ACTION:** President

### 2. Collaboration With Our Neighbours

There is now a commitment from the Presidents of Waterloo, Wilfrid Laurier, and Guelph to work aggressively toward greatly increased collaboration. The goal of this collaborative effort is to increase the breadth and quality of our academic programs while containing or decreasing the costs of program delivery. A newly formed Presidential Task Force will facilitate co-operation in areas ranging from course and program offerings, through co-ordinated hiring of faculty, to shared infrastructure. Examples of productive collaboration with neighbouring universities, colleges, and schools abound. We must take pride in such initiatives as our joint graduate programs, our

articulation agreements with colleges, our participation in the program serving the Six Nations Reserve, our electronically linked classrooms, and our continuing progress in dealing with shared library resources. But there is much more that could and we believe should be done.

#### RECOMMENDATION # 31:

*The revised course timetable, the duration of semesters, and the examination schedule should be compatible with increased collaboration with Waterloo, Wilfrid Laurier, and McMaster.*

**ACTION:** Associate Vice-President Academic

#### RECOMMENDATION # 32:

*The transfer of course credits among Guelph, Waterloo, Wilfrid Laurier, and McMaster should be made as efficient and simple as possible. Students who take specialized courses at our neighbouring institutions that are not offered here should receive full academic credit for those courses.*

**ACTION:** Presidential Task Force, Board of Undergraduate Studies, and Board of Graduate Studies

An underlying philosophy regarding credits granted by this University seems to be that credit should be given only for courses that a student could have taken here. Many programs evaluate courses based on the equivalency of course content. Thus, only if another university offers essentially the same course we do is a student likely to get credit for that course towards a University of Guelph degree. Clearly this philosophy must change; efficiency (and fairness) would dictate that we should adopt a very different approach. This will require a reassessment of the degree requirements for many majors and specializations to remove unnecessary restrictions.

#### RECOMMENDATION # 33:

*Undergraduate programs with low enrolment or low financial resources should be considered as high priority candidates for collaborative offerings with Waterloo, Wilfrid Laurier, and/or McMaster.*

**ACTION:** Presidential Task Force and program committees

In this era of dwindling public resources, collaboration may be the only way of maintaining areas of expertise in which we can no longer afford to be self-sufficient. For example, individual universities might each find it necessary to retreat from a subject area, when by working together they might preserve and even enhance it. We do not have the resources to do all things for all people; thus, of necessity, we must enrich our academic programs through collaboration with other institutions for the benefit of our students and the people of Ontario.

#### RECOMMENDATION # 34:

*Collaboration with our neighbouring universities, Waterloo, Laurier, and McMaster, in the area of academic and student support, such as the Library and registrarial functions, should be given high priority.*

**ACTION:** Presidential Task Force

#### RECOMMENDATION # 35:

*The transfer of course credits from colleges to the University of Guelph should be made as efficient and simple as possible.*

**ACTION:** Board of Undergraduate Studies

#### RECOMMENDATION # 36:

*Enhanced interaction with elementary and secondary schools in the areas of curriculum, the use of technology, professional development for teachers, and accessibility should be assigned a high priority.*

**ACTION:** Associate Vice-President Academic

#### RECOMMENDATION # 37:

*The University of Guelph should continue to play a leadership role in the Wellington County Consortium, and involve more sectors of the institution in collaborative ventures with the consortium.*

**ACTION:** Vice-President Finance and Administration

Since 1993, the University has been a partner along with nine other major public sector institutions in Wellington County in a consortium designed to improve efficiencies and cut costs. Significant savings have already

been realized in the area of utilities, maintenance, and bulk purchases. The SPC applauds this initiative, and suggests that, whenever possible, collaboration with consortium partners be considered as a matter of course in decision-making.

### 3. Collaboration With Business and Industry

Previous collaboration with business and industry has largely centred on contract research and technology transfer. While these activities must obviously continue and expand, other areas of potential collaboration, relating particularly to Open Learning and in-service training, will be important to the future of the University. We should also form much closer ties with industry and business, and particularly with alumni, in a concerted effort to arrange experiential learning opportunities for our students.

#### RECOMMENDATION # 38:

*Alumni who are active leaders in the business community should be invited to advise the University on the revision of policies and procedures that may be limiting our relations with industry.*

**ACTION:** President

A successful strategy in business is the formation of strategic alliances and working arrangements among specific companies. Universities have done very little of this, perhaps fearing that the development of close ties with specific industrial partners would conflict with an ideal of impartiality. Also, a frequent prerequisite for relations with business is confidentiality; this might be seen to conflict with the values and policies of this University. There are, however, significant advantages to closer associations between this University and business. Where it is possible to develop such strategic alliances without compromising our principles as a university, we should do so.

The amount of in-house training and continuing education of employees within business and industry is immense and increasing. If we create this market for our courses and programs, we will also develop the opportunity to measure and demonstrate the relevance of our curriculum. Several of our disciplines are particularly well-positioned in this regard.

## D. INTERNATIONALISM

**OUR GOAL:** The University of Guelph is determined to strengthen the international thrust of our undergraduate and graduate programs, as well as our research and service, to make a substantial effort to increase the number of international students at the University of Guelph, and to increase opportunities both for our own students to study abroad and for language instruction.

#### RECOMMENDATION # 39:

*The Board of Undergraduate Studies will strive to ensure that each undergraduate degree program incorporates an explicit international component and report to Senate by September 1997.*

The "minimal" way to internationalize curriculum is to develop a few new courses or areas of study that focus on international issues. The Commission believes that this approach is too narrow. We seek not simply to educate a few specialists, but to ensure that all students and faculty develop international perspectives and competencies. This could be achieved through courses with an explicit international focus, modern language instruction, participation in a study abroad or exchange programs, international field study and research projects, and appropriate experiential learning opportunities. These matters should be considered when the Board of Undergraduate Studies is undertaking the review of each program proposed later in the report. As part of the review, BUGS should ensure that program structures do not unduly impede student participation in exchange opportunities and study abroad.

#### RECOMMENDATION # 40:

*The University should strengthen support for international students on campus (e.g., LINK) and promote understanding of the cultures of other countries.*

**ACTION:** Senate International Committee

#### RECOMMENDATION # 41:

*The Senate International Committee should set targets for study abroad and exchange, analyse resource requirements (including bursaries for needy students), and report to Senate by September 1996.*

Exchange agreements, semester abroad programs, and other international study opportunities (including work-study and field study) are critical to the internationalization of the University of Guelph. In the near future, exchange agreements will offer the most realistic chance of substantially increasing not only study abroad for our Canadian students, but also the number of international students at the University of Guelph. These programs will, however, have only a minor impact on our overall learning environment until significantly more students participate. The SPC's preliminary view is that 20% of our students should have some study abroad experience at some point during their university careers. This target is viewed as being appropriate and achievable within five years: it represents, however, a considerable increase over current participation rate of approximately 8%.

**NOTE:** International experience at Guelph is global in scope. The University community favours for its international activities a dynamic balance among disciplines, between graduate and undergraduate studies, between developed and developing countries, and among geographic regions. To a very large degree, our international activities are determined by the interests and entrepreneurial activity of individual faculty and by the availability of external funding. There can be no pre-determination of where such interests and opportunities will take us in the future, or of the countries from which international students at Guelph will be drawn. Specific opportunities in international development, a field in which the University of Guelph has been very active, will continue to be shaped by the priorities of external agencies and by the availability of funding. In short, we cannot — and would not wish to — limit ourselves with respect to the countries with which the University may engage.

At the same time, there are obvious limits to the breadth and level of activity that can be supported by University funds. This funding should be used strategically — to build on existing strengths and centres of academic synergy, to address issues of imbalance, to evaluate and provide seed money for the most promising opportunities that may arise, and to attract external funding in support of international activity. Thematic foci, building on strengths in such areas as post-colonial studies and international development, may be appropriate in this regard. However, with respect to internal funding for international activities, the most pressing need we face is study abroad. Our experience in Europe, where Guelph's exchange agreements and semester abroad programs are concentrated, has demonstrated that the success of such programs is largely determined by our degree of familiarity with the institutions, people, and resources of a particular region. Prolonged association with a limited number of sites is more likely to yield significant results than is a more evenly distributed approach. (This being said, it is of course the case that students can study in universities around the world on a letter of permission or by taking advantage of exchange agreements.) The geographic foci proposed in Recommendations # 42 and 43 are particularly important with respect to study abroad opportunities.

#### RECOMMENDATION # 42:

*International activities should continue to include a focus on Western Europe, the definition of which will naturally evolve as the community of European nations changes.*

**ACTION:** Provost, Centre for International Programs

Our connections with Western Europe are well established, we have a number of successful student exchange and semester abroad programs in that area of the world, and continuing close cooperation between Canada and Western Europe seems certain. The line that separates Western Europe from Eastern Europe is becoming less clear and less significant.

#### RECOMMENDATION # 43:

*The Caribbean and Latin America should have greater prominence in the spectrum of international activities in which we are engaged. Priority*



should be given to student and faculty exchange, study abroad, supporting courses (e.g., courses related to the natural resources, economics, cultures, and socio-economic and political features of these areas), opportunities to develop competencies in speaking the relevant languages, collaborative research, and the development of institutional linkages. **ACTION:** Provost, in conjunction with the Senate International Committee, should develop an appropriate plan of action and report to Senate by January 1997.

Although the University does not have extensive involvement in the Caribbean and Latin America, faculty and student interest in this region is growing. The economic links with Canada are likely to strengthen rapidly, and proximity reduces some of the practical obstacles to interaction. Spanish, the most pervasive language of Latin America, is attracting an increased level of interest among our students; and the Caribbean nations make a fit with Guelph's interest in post-colonial studies. For these reasons, the Commission believes that a focus on this region is appropriate. The essential point is that we should develop a new geographic focus — apart from Europe — for study abroad opportunities.

#### RECOMMENDATION #44:

*The Associate Vice-President Academic should establish a working group to evaluate ways of meeting our need to strengthen language instruction, and report to Senate by May 1996.*

The SPC has rejected the idea of requiring all students to be proficient in a language other than English. However, it is clearly important to foster improved language acquisition by students, faculty, and staff. The number of languages taught in regular courses at the University of Guelph must clearly be limited, and those languages that are consistent with proposed focus areas should have priority. (It should be noted that while most of our semester abroad programs permit students to work in English, skill in a second language will greatly enhance the experience of studying abroad and, of course, extend the opportunities of doing so.)

The Academic Planning Committee noted that language training might be supported through an investment in modern interactive language training software, thus enabling the Department of Languages and Literatures, and also the Département des études françaises, to concentrate teaching faculty resources more fully in advanced courses in language, literature, and culture. Opportunities for collaboration with neighbouring universities and for the sharing of such resources should be examined, particularly in German, Spanish, Italian, and Classics.

## E. OPEN LEARNING



**OUR GOAL:** The University of Guelph is committed to meeting life-long learning needs and to increasing accessibility and flexibility. Open Learning will allow us to increase access for non-traditional students, to serve society through the provision of superior life-long learning opportunities, and to improve efficiency and flexibility in the delivery of the undergraduate curriculum through the development of superior distance courses.

#### RECOMMENDATION #45:

*The SPC endorses the recent creation of the Senate Committee on Open Learning, to work in concert with the Office of Open Learning. Critical responsibilities will include the implementation and on-going assessment of profit-sharing and incentive mechanisms, ensuring the quality of non-credit courses, and identifying the most significant opportunities for development.*

The creation of the Office of Open Learning, through the merger of the Offices of Distance Education and Continuing Education, and the creation of the Senate Committee on Open Learning were important steps in the furthering of life-long learning opportunities provided by the University. The success of Open Learning will be dependent upon sound development decisions, incentives for participating

departments, and on-going attention to the quality of offerings. Also critical will be the wise use of emerging technologies.

#### RECOMMENDATION #46:

*Academic units (including departmental curriculum committees and councils) have primary responsibility for the quality of all credit courses delivered by distance education whether for students registered in the Open Learning Program or for students registered in degree/diploma programs. To this end, all distance education course materials should be periodically reviewed and all must be evaluated by students.*

The Office of Open Learning will assist in the delivery and assessment of all distance courses (as well as non-credit courses), but it cannot approve the creation of any course for which the University of Guelph offers credit. It should be clearly understood that only the Board of Undergraduate Studies or the Board of Graduate Studies can do that. Fundamental responsibility for quality rests with the academic unit offering a credit course; and this responsibility, with respect to distance courses, must be taken more seriously in the future.

#### RECOMMENDATION #47:

*The development and delivery of credit distance courses serving undergraduate programs should be viewed as part of a department's teaching function and constructed as a normal part of workload. Activities in all areas of Open Learning, including the development and delivery of distance credit courses to undergraduates, should be considered in assessing the quality of departments, and should be reflected in the assessments of individual faculty by Tenure, Promotion and Selective Increment Committees.*

To implement the first part of this recommendation, it will be necessary to develop a resource allocation mechanism that makes clear to departments the instructional load for which they have already been resourced. The current issue of "double-dipping," whereby some departments receive additional money (stipends based on course enrolments) for the delivery of credit courses by distance to undergraduate students they can reasonably be expected to serve within existing budgets, must be solved — and can only be solved if such expectations are made explicit. The SPC recognizes that in those cases where development cannot be constructed as a normal part of workload, other means of supporting it must be found (e.g. the development budget of the Office of Open Learning and the Learning Enhancement Fund).

#### RECOMMENDATION #48:

*80% of the profits from delivery of credit or non-credit courses in support of Open Learning should remain in the department or college generating the revenue, and should be regarded as additional income for the units concerned; 20% of profits should flow into the Learning Enhancement Fund.*

"Profits" begin after the full costs of development and of delivery have been met. The SPC recognizes that the extent to which academic units can profit from Open Learning, or find the time to invest in it, will vary across campus. This is the principal reason for recommending that 20% of profits should flow into the Learning Enhancement Fund, to which all units will have access. The 80% of profits remaining in the units engaged in such entrepreneurial activity can have a significant impact on the health of those units; such units may wish to use their profit share to support Open Learning ventures, and so position themselves for additional profits in the future. Ultimately, these profits will support the educational and research priorities of the units concerned; because they supplement scarce funds allocated to departmental budgets by the University, they may prove invaluable. It is intended that units profiting from Open Learning initiatives will not have their base budget allocations from the University adversely affected.

## F. ACADEMIC PROGRAMS



*Courses in this summer session should not be offered in 12-week formats. The details and process of downsizing must be left to programs, departments, and colleges. **ACTION:** Associate Vice-President Academic*

The spring semester was expected to play an important role in the University of Guelph's semester system. The 1990 report of the Senate Committee on University Planning clearly shows that our expectations have not been realized. Over the 1979-1989 period, Guelph's spring FTE enrolment as a proportion of fall FTE enrolment averaged 14 percent compared to the Ontario university system average of 22 percent. Summer schools at Brock, Lakehead, Waterloo, and York generated at least 30 percent of their fall enrolments.

Many attempts have been made to improve the performance of the spring semester, but despite these, the percentage of spring enrolment to fall enrolment has not surpassed 19 percent. The vast majority of our students take three or fewer courses in the spring semester.

The small class size and informal atmosphere prevalent in our spring courses are attractive but must be weighed against the resource implications of creating this environment. Data submitted with the committee report on the semester system indicated that over the academic year 1993-94 (spring 1993 to winter 1994), the University offered 30 percent of total fall course sections in the spring semester, but received only 18 percent of the fall enrolment.

The University cannot rely on in-course students to sustain the viability of the spring semester. Moreover, the issue of required courses for co-op students in the spring semester must be re-evaluated. The overriding principle is that classes in the spring semester should be of a size comparable to that of classes in the other two semesters. To achieve this, we will probably have to reduce the number of spring offerings.

The SPC supported the concept of one summer session period of 6 to 10 weeks. This option would allow the University (in the winter semester and summer session) to have longer examination periods and longer marking periods, making it possible to set fewer multiple choice examinations and more examinations requiring written answers. It would also extend the availability of campus facilities for other educational purposes, including those that generate revenue for the University. The SPC strongly recommends also that the University investigate the feasibility of co-ordinating its spring offerings, including distance courses, with the summer offerings of other institutions. (Recommendation #17 addresses this matter in relation to the needs of co-op students.) Such an investigation should include the development of reciprocal agreements with other institutions of course equivalents. A list should be published informing our students of the summer courses at other institutions that are acceptable as course credits at Guelph.

## 2. Course Credits for Graduation

#### RECOMMENDATION #51:

*The University should adopt a credit system in which courses are weighted as 0.0, 0.5, 1.0, 1.5, 2.0 credits.*

**ACTION:** Associate Vice-President Academic

Our current system requires a specified number of courses for graduation from a program (e.g. 30 courses for a General B.A. or B.Sc., 40 courses for an Honours B.A. or B.Sc.). All courses have equal weight. (The very few year-long or double-weighted courses we have actually carry two course numbers.) This system has been criticized as inflexible and inequitable. Students carrying a full course load generally take five courses per semester, thus, it is argued, having to focus on too many different things at once. A more flexible system, permitting greater concentration, would increase learning. Courses having very different workloads associated with them — e.g. science courses with and without labs — carry the same value for graduation and computation of averages, and this is widely regarded as unfair.

Courses must be evaluated to determine the appropriate credit value; this credit value should NOT be based on contact hours, because that is inconsistent with the concept of self-reliant learning; instead credit value should reflect the time required for students to do their work well. This recommendation

Given a reduced faculty complement, we have no choice but to reduce the number of our courses and course offerings. While the recommendations contained in this section of the report have other very important objectives, all (in varying degrees) will help us to prosper in the face of greatly reduced faculty and staff numbers.

## 1. The Semester System

#### RECOMMENDATION #49:

*The University should move to fall-entry only for new undergraduate degree students, as soon as it is operationally feasible to do so.*

**ACTION:** Associate Vice-President Academic

The report to the SPC on "The Advantages and Disadvantages of the Semester System" concluded that there are very few fundamental differences between our semester system and the so-called "annual systems" operated by most Ontario universities. The feature that makes our system unique is only an operational one: the University of Guelph offers three annual entry points to its credit courses and most of its degree programs for diverse groups of students.

Although our three entry points are perceived to provide students with more flexibility, the great majority still choose to begin their university careers in the fall semester. The impact of accommodating the small number of students who enter in spring or winter is enormous; it pervades almost every aspect of our undergraduate curriculum, learning and working environment, allocation of resources, and administrative procedures.

Three entry points generate multiple student cohorts, and this influences curriculum design, including the timing and frequency of course offerings over the academic year. Multiple cohorts influence academic procedures and the way in which non-academic units deliver services. Lack of cohesive cohorts of students within many programs may actually impede peer-based learning because of a lack of familiarity with one's classmates.

All of this takes its toll on the community. We do almost everything three times during an academic year. Every semester students spend inordinate amounts of time and energy "chasing the system" with its steady diet of pre-registration, drop/add, renewal of library privileges, fees to be paid, and other bureaucratic deadlines. Doing everything three times a year in order to accommodate approximately 100 to 200 students is inefficient and has high "opportunity costs." Everyone's time, especially the students' time, could be spent more profitably if we reduced the number of "chases" over the academic year.

Another important opportunity cost of multiple entry points is the loss of more than two calendar weeks. The SPC concluded that extending the length of semesters was undesirable since it would impede collaboration with neighbouring universities. Any additional time should be used to provide opportunities for study and reflection, just before and/or during the examination period.

With the elimination of the winter undergraduate registration period, all new entering and in-course undergraduate students would register for fall and winter courses before the beginning of the fall semester. This might lead to a single tuition fee for the two semesters. The option of two instalment payments for tuition should be retained. The SPC does not believe that the single entry point should be used as a method of generating additional revenue for the University related to the timing of fee payments.

There are good reasons for retaining three entry points for many graduate programs. These relate to competitive recruitment, the support of research, and international activities. No changes to the existing practice is proposed.

#### RECOMMENDATION #50:

*The spring semester, as it is currently operated, is not justifiable from a resource allocation perspective and must be downsized immediately. The University should continue to operate a summer session, but course sections should be reduced, the mix of course offerings should change, and distance courses should play a more important role in order to serve a larger and more diverse group of learners.*



will allow the University to employ a wider range of course formats, and allow students a more intense intellectual focus. The credit system allows program committees to determine where a smaller number of specially designed courses — e.g., three courses at 1.5, plus one at 0.5 or one at 2.0 and three at 1.0 in the first or fourth year of a particular program — will result in greater student learning. It increases flexibility for students, and small group and independent study possibilities, in making it possible to offer a course at 1.0 or 1.5 credits according to whether the student takes an attached seminar, lab, or research option. The 0.5 option facilitates a modular approach to curriculum development, and makes it possible to address the problem of substantial (but not complete) duplication across programs: thus, a single course for 0.5 might contain the common material and others at 0.5 the more specialized material serving different programs. This same model — 0.5 plus 0.5 — would make it possible within a given department to have one set of lectures serving all students in a particular subject area and a choice of related seminars. The 0.0 weight is proposed as a means of tracking required non-credit courses or modules. The credit system is NOT a strategy for short-changing our students. While it may (or may not) reduce the number of courses students take overall, its intent is to increase learning.

If the recommendation is accepted, there are implications that program committees and the Associate Vice-President Academic will have to address — including graduation and program requirements, rules concerning continuation of study, calculation of grade averages and tuition fees, and the definition of a full-time student. A credit system is already used for graduate courses and may require adaptation to ensure consistency between the graduate and undergraduate systems.

### 3. Prior Learning Assessment

#### RECOMMENDATION # 52:

*The University should adopt a system for assessing prior learning and skill development; a student who can demonstrate possession of the knowledge or skills to be developed in a course would receive credit for that course towards a degree.*

**ACTION: Provost**

Some students enter the University with experience and knowledge equivalent to that offered by some university courses. There are mechanisms in place to give them advance credit on entry for knowledge or experience acquired in other educational institutions, but there is no mechanism currently available to recognize knowledge acquired in a non-institutional or continuing-education setting. One way of giving such recognition is to exempt students from courses for which they have the equivalent knowledge, if such courses are required or prerequisites for required courses. But such students still have to meet graduation requirements in terms of total number of credits acquired at Guelph or some other educational institution. Our system is a waiver of requirements, rather than direct credit. Another approach is to allow students to demonstrate formally that they already have the necessary knowledge. This approach, also known as "challenging a course," is already in use in some other institutions. If the assessment or "challenge" is successful, the student is given credit for the course, and total requirements for graduation are reduced. Program committees may wish to place a limit on the number of courses for which a student might request an assessment of prior learning. The prior learning assessment option is proposed as cost-effective and equitable. The cost of assessment is more than met by a fee assessed to students, and the University reduces enrolment pressure. The student avoids wasting time and money.

### 4. Review of Programs, Specializations and Courses

A reduction in course offerings is necessitated by the reduced number of faculty. Reductions will also be necessary to meet the requirements of a learner-centred focus (including the need for professional development of faculty) and to free up time required to retain or enhance our graduate enrolments and research-intensiveness. Given current enrolment projections, the Commission's view is that a reduction of 25% in our course offerings should be achieved over a five-year period. Some departments and programs have already

reduced offerings. Additional opportunities for cutting back are expected to arise from the introduction of a single entry point. Further reductions can be achieved by implementing a careful review of specializations and courses. Before considering the review process, we should look in more detail at the implications of reducing the number of course offerings.

A reduction in the number of offerings will reduce the richness of offerings and will result in an increase in average class size. While a move to reduce the richness of our offerings cannot be taken lightly, it is worth noting that the diversity of our offerings is much greater than at the other universities with which we compete for students. The increase in the size of some classes is equally problematic, because that impact must be reconciled with the objective of increasing the number of small group learning experiences available to students, particularly in their first and second year. The extent to which these competing objectives are realized will depend, in part, on the degree to which efficiencies in other aspects of teaching occur. For instance, provision of some parts of course material through independent learning modules (e.g., CADRILL packages) should free up some faculty time for organizing tutorials or small group experiences. These tutorials would utilize graduate students and/or senior undergraduate TAs to facilitate learning experiences designed by the faculty. It is realistic to expect that small group experiences will be available only in selected course offerings, but a concerted effort should be made to provide at least one such experience in each semester of the first two years of a student's program. A firststep must be to ensure that small group experiences and group projects are incorporated in the new first year inquiry courses.

In the third and fourth year of a student's programs certain courses with small group experiences (e.g., research projects) could be given greater weight, in which case fewer courses would need to be taken by students and offered by faculty.

It is not obvious at this time where the greatest opportunities for reducing the number of course offerings will reside or what the total reduction could be. The decrease in total enrolments is not expected to apply uniformly to all programs, and this further diminishes our ability to forecast accurately the feasibility and impact of reduced offerings. The rate at which courses can be restructured and new technology introduced to allow faculty time to be redirected to small group learning experiences will be dependent in part on the availability of resources (including restructured physical facilities) but must extend over several years.

#### a. Undergraduate Specializations and Courses

A review of specializations and courses is called for in order to identify those specializations and courses that should continue. The same criteria will be applied in the assessment of existing and proposed specializations or courses. The Commission is acutely aware that the reviews will prove a costly waste of time if they do not result in a reduction in offerings. This reduction is necessary if faculty are to have manageable teaching loads and to redirect some portion of their effort in support of the Strategic Directions and opportunities that may emerge in the future.

#### RECOMMENDATION # 53:

*The Board of Undergraduate Studies must begin an on-going review of all specializations. The review should be based on a common set of criteria which include:*

- (1) The compatibility of the program with the University's stated mission.
- (2) The extent to which the specialization duplicates or overlaps with other specializations on campus, and the societal need for the specialization, including the availability of comparable specializations at other Ontario institutions.
- (3) The availability of necessary resources (including personnel, library and computer resources, studio and laboratory space) to offer the program at a level of quality the community (i.e. Senate) deems acceptable academically.
- (4) The actual or anticipated enrolment in the specialization.

The Board of Undergraduate Studies would be expected to fine-tune these criteria and subsequently apply and enforce them in assessing proposed and on-going

specializations and report annually to Senate. New specializations should be approved by Senate only if they satisfy all the amended criteria.

If these criteria are approved by Senate, we recommend:

- (i) The number of courses approved for any specialization should be a minimum required to maintain a viable specialization with additional courses only where enrolment warrants.
- (ii) The Board of Undergraduate Studies (BUGS) and Senate should approve new specializations only where there is documentation of resources being available to support them.
- (iii) In cases where apparent duplication between undergraduate specializations exists, BUGS should instruct the relevant program committee(s) to determine how the specializations concerned should be differentiated or amalgamated.
- (iv) For existing undergraduate specializations, BUGS should instruct program committees to complete and then continue the reviews on a five-year basis. These reviews should begin with those specializations having the lowest enrolments. Special efforts should be made to determine whether the viability of low-enrolment specializations can be improved by inter-institutional collaboration. Explicit recommendations should be made for discontinuation or change in cases where either enrolment falls below an acceptable level or resources are insufficient to ensure acceptable quality.

#### RECOMMENDATION # 54:

*A review of courses must be carried out in conjunction with the reviews of specializations. The Board of Undergraduate Studies must take the following criteria into consideration in the review of course offerings and the assessment of whether undergraduate courses are introduced, continued, or discontinued.*

- (1) Whether the course is a required component of an approved specialization.
- (2) The availability of sufficient resources to offer the course.
- (3) The extent to which the course duplicates or overlaps with other courses on campus.
- (4) The frequency of offerings and the feasibility of offering the course either in alternate years or in the distance mode.
- (5) The opportunity for collaboration with neighbouring institutions.
- (6) The infrastructure, such as library and computer resources, studio and laboratory space needed to operate the course at a level of quality the community feels is acceptable academically.
- (7) The actual or anticipated enrolment in the course.

If these criteria are approved by Senate, we recommend:

- (i) That new courses not be approved by Senate without consideration of all the points listed.
- (ii) That specializations, to the extent possible, specify courses as "required" or "elective", rather than as "choose x from among y", so that the impact of continuing or discontinuing a course of offering can be more readily ascertained.
- (iii) That enrolment be a more significant criterion for introducing or continuing courses that are used only as electives.
- (iv) That the Board give special consideration to low enrolment courses that serve as honours projects, occasionally offered special topics, and reading courses at the 400 level.
- (v) That complete listings of all undergraduate courses offered during the previous two years and their enrolments be available, on an ongoing basis, to departments and program committees to assist them in the development and management of their programs.
- (vi) That the Board of Undergraduate Studies be given the responsibility to fine-tune the criteria listed above, and to use the amended criteria in assessing proposed and ongoing courses.

#### RECOMMENDATION # 55:

*Course offerings appearing in the calendar should be offered no less frequently than on a two-year cycle. Semester offerings should be designated. Any course not offered during*

*this cycle should be removed from the calendar unless it is a special topics course. Irregularly offered courses should be confined to a series of course numbers reserved for "special topics" under each specialization.*

### b. Graduate Specializations and Courses

Separate internal reviews of graduate specializations are considered unnecessary, since these are all externally appraised.

As far as possible, departments should organize their graduate courses in the manner best suited to the program, an exception being courses that have a "service" function for students outside the department. In this case, the Board of Graduate Studies, acting in a role parallel to that of an undergraduate program committee, would need to protect the interests of students outside the home department.

We suggest that the Graduate Calendar follow the practice of the Undergraduate Calendar in identifying semester offerings for all courses, and list only those courses that would be available during a two-year calendar cycle, with less frequent offerings advertised as special topics. The rationale for this change is to allow incoming Master's students, who typically stay about two years, to plan their course work upon arrival.

### G. ACADEMIC STRUCTURES



The present academic structure of this University was defined in the 1969 report to Senate from a committee chaired by B.C. Matthews. Most departments were created around single disciplines; colleges brought together those departments that were judged most compatible. The number of colleges reflected an administrative balance between projected enrolments in the new growth areas and commitment to our traditional areas of specialization. Line responsibility from the President to the Department Chair provided for the development of academic programs and the allocation of resources (including the filling of vacant faculty and staff positions). The committee was quite accurate in its prediction of student enrolments, but it assumed that there would be a corresponding growth in budgets. It did not foresee the series of reductions in government funding that began in the 1970s and escalated in the 1990s. It also did not foresee the growth of interdisciplinary activities or the necessity for cooperation across departmental and college lines.

The SPC's Academic Planning Committee was asked to assess the University's current structure involving departments, colleges, faculties, program committees, and centres in relation to alternatives and the potential for reconfiguration. The objectives of the assessment included enhancing interdisciplinary teaching and research, improving the University's ability to renew and reform curricula, and increasing efficiency in the use of resources. Among the weaknesses of the current academic structure identified by the Academic Planning Committee, the following are particularly significant:

- Boundaries between departments and colleges inhibit interdisciplinary and interdepartmental activity in numerous ways, including lack of resources for programs that are not clearly identified with a specific department and lack of recognition for faculty and staff for work done outside the department's major area. Another consequence is a lack of flexibility to pursue new initiatives occurring in disciplines that bridge the mandates of more than one department, e.g. environment, biotechnology.
- In order to promote interdepartmental/interdisciplinary activities, the University has established a complex system of interdepartmental/interdisciplinary committees, faculties, councils, and research centres. These structures have been designed to facilitate collaboration, but their effectiveness is limited to a significant degree by their virtual isolation from the resource-allocation process.
- A number of departments assigned to different colleges in the 1969 configuration of the University have contiguous roles. Mandates of such departments were distinguished primarily by their applied orientation (e.g. Family and Consumer Studies) or basic orientation



(e.g. Psychology). As these departments and their colleges have evolved, the distinguishing features have begun to blur, introducing real or potential duplication in academic programs and faculty resources.

- To accommodate the required downsizing of our faculty and staff, and protect quality in teaching programs, the University must have flexibility. But departmental and college boundaries make it difficult for faculty in one department to teach courses in another, even if academically qualified. Teaching assignments are sometimes made not in the best interest of the University, but in the best interest of the department.
- Most degree programs have evolved such that they are no longer embodied in a single college. As a consequence, administrative responsibility for some of our major undergraduate programs is separate from control of the budget, staff and faculty hiring, teaching assignments, merit evaluation, etc. In one case, the BSc(Env), a complete degree program lies outside the college structure. Most program committees do not fulfil the mandates given to them by Senate (see Senate Bylaws pp. 52-54, especially item 8). The exception may be the BSc(Agr) committee, but in this case the OAC Dean could use his budget authority to implement changes proposed in Vision 95. Similar changes to the undergraduate curriculum in the BSc and BA programs require coordinated action by two or more deans and are therefore harder to achieve.
- There are problems in tying graduate teaching assistantships, and therefore the University's financial support for graduate programs, to the undergraduate teaching needs of a department. Departments with large undergraduate service courses have GTAs to support their graduate programs, whereas those without them must find research or other external funds to support their graduate program. The Dean of Graduate Studies lacks control of the University's graduate programs because there is no fiscal authority in that office.

**NOTE:** Weaknesses that relate to the process of resource allocation are addressed later in the report. Recommendations related to the colleges, departments, and interdepartmental structures follow.

## 1. Colleges

### RECOMMENDATION # 56:

*There should be no realignment of the college structure at present, but the distribution of departments among colleges and the number of colleges should be reconsidered in five years.*

**ACTION:** Provost

Possible realignments of departments within colleges have been considered with a view to enhancing the degree of interaction between departments with a "pure" and "applied" science focus, as well as reducing the number of colleges. Some reduction of administrative costs could also presumably be achieved in this way. However, a compelling case has not yet been made for any particular reconfiguration of the colleges. Subsequent recommendations regarding departments and interdepartmental structures may result in considerable change over the next five years. A re-examination of the distribution of departments across the colleges and of the number of colleges will be appropriate at that time.

## 2. Departments

Every department was reviewed by the Commission's Academic Planning Committee. Several departments, or parts of departments, were considered to have roles that were contiguous and/or complementary.

The SPC has not undertaken a detailed analysis of the relationships between these departments, their academic offerings or their level of resources. Any opportunities for further strengthening of the programs in these departments through greater collaboration or realignments, however, do merit further examination. The people in the respective departments are best positioned to undertake this assessment.

### RECOMMENDATION # 57:

*Discussions should be initiated (or continue where already underway) in the following departments to examine the advantages and disadvantages of realignments or closer association*

*through participation in councils:*

- Veterinary Microbiology and Immunology/Pathology*
  - Nutritional Sciences/Human Biology*
  - University School of Rural Planning and Development/Landscape Architecture/Rural Extension Studies*
  - Economics/Agricultural Economics and Business*
  - Environmental Biology/Horticultural Science*
  - Land Resource Science/ Geography*
- Particular attention should be paid to implications for change in administration, hiring of staff and faculty, sharing of space and equipment, and coordination of course and program offerings (graduate and undergraduate). Discussions should be facilitated by the Dean where the departments are in the same college and by the Provost where the departments are in different colleges. The facilitator should define a schedule for completing each discussion, and the Provost should report the results of all discussions on realignment/closer association of departments to Senate no later than January 1996.*

The nature and extent of collaboration that is appropriate for different units will vary. Departments associated with the first three of the combinations identified in the recommendation have already begun discussions on merging (in two cases discussions began before the Commission was created). Two combinations (Economics/Agricultural Economics and Business, and Environmental Biology/Horticultural Science) are already active participants in Councils in their respective areas and further discussions should involve these Councils.

## 3. Cross-Unit or Interdepartmental Structures

Various structures have evolved that cut across departmental lines and that are intended to facilitate communication and collaboration in teaching and research. Some of these structures are focused on a specific issue and have a finite life span. Others (e.g. interdepartmental graduate programs) have a greater degree of permanence.

Interdepartmental structures have most often involved departments representing different disciplines. But they can also operate as vehicles for departments with contiguous responsibilities to begin examining opportunities for consolidating undergraduate and graduate programs and for using physical, financial, and human resources more effectively. In such cases, the interdepartmental structure may represent an intermediate stage in the evolution of such departments into new, larger departments. The SPC sees no viable alternative to the creation of more interdepartmental structures. We cannot function well purely within the existing departmental structure — and any new departmental or college structures should evolve, as opposed to being forced.

### a. Councils

Where interdepartmental activity occurs within a college, the Dean and Dean's Council should be responsible for developing appropriate structures. More problematic are interdepartmental structures that span colleges. The concept of councils has been employed in several areas and appears to be working well for the University. Building on this experience — increasing the number of such councils, clarifying roles, and integrating the work of councils with the resource allocation process — seems to the Commission a sensible answer. It is not expected that a single model or set of responsibilities would apply to all councils, but some elements would be common to all.

### RECOMMENDATION # 58:

*Present and proposed councils should be given responsibility to coordinate interdepartmental activities and, where appropriate, to coordinate faculty and staff hiring. For those parts of departmental undergraduate activity that fall within the Council's purview, the following responsibilities currently vested in departments should be coordinated by the council: curriculum development, student advising, administration of the relevant majors, minors, and specializations, and teaching assignments. Each council should, at minimum, include the Chairs and/or Deans of member departments*

*and colleges, and might be chaired either by these individuals in rotation or by a specially appointed Council Coordinator. One Dean should be appointed ("designated") to represent the council on VPAC. One of the responsibilities of councils is to determine whether, or at what rate, cooperation between units should evolve towards merger of departments. A senior academic should be appointed as "facilitator" to monitor progress towards the Council's specific goals. Councils should be reviewed every five years to determine whether they are meeting their mandate, and whether there is a continued need for their existence.*

**ACTION:** Provost, Deans, Chairs

Although the work associated with councils must be tied (through associated departments and colleges) to the resource allocation process, councils are not proposed as budget units.

Neither are they envisaged as reducing the authority of departmental Chairs (or Deans or faculty). Rather, they are enabling structures, established to accommodate a community of interest that crosses departmental and college lines. Decisions affecting interdisciplinary activities must be made. The alternative is to transfer this responsibility to the vice-presidential level, where subject-specific expertise will be less. In the face of increasing societal need for interdisciplinary work, we must ensure that the boundaries between departments are both movable and permeable. To achieve this in an era of severely constrained resources, we must somehow integrate departmental and interdepartmental decision-making; councils, the SPC believes, should be seen as extending the reach of associated faculty and the authority of Chairs. Councils will involve departmental Chairs in more complex issues of management, and will challenge them to play a decisive role in fostering the strategic direction of collaboration. The membership of councils will vary in accordance with the primary functions of each, but must be kept at a manageable size.

The concept of councils may be applicable to a number of areas; and the relative emphasis to be placed on communicating and coordinating across disciplines, as contrasted to examining opportunities for consolidating departments and their teaching programs, will vary with the council. The following recommendations relate to areas that the Commission believes merit immediate attention. Four areas (Animal Science, Ecology and Evolutionary Biology, Microbiology, and Plant Biology) involve councils with a significant focus on consolidation and restructuring. All of these areas relate to biological sciences; proposals to create councils in these areas reflect the size and complexity of this area at Guelph. Another six areas (Business, Cultural Studies, Food, Molecular Genetics, Rural Communities, and Toxicology) involve councils with a focus on more effective coordination, although new departments or programs might evolve from their deliberations. Two areas, Bio-Medical Sciences and Health Sciences, already have councils; their future requires reassessment. The final area, Environment, is particularly complex and merits further examination. The recommendations for each area, therefore, reflect differences in the nature of responsibilities and the stage of development of councils in the different areas.

## Animal Science

### RECOMMENDATION # 59:

*The Animal Science Council should coordinate undergraduate courses and programs, graduate programs, and Open Learning offerings with a view to maximizing efficiency of program delivery and elimination of duplication, and should coordinate hiring. Attention should also be given to integrating the basic and applied aspects of research. Following reorganization of the programs, this Council should recommend departmental realignments in the broad area of animal biology. Coordination of the graduate program in Aquaculture should also reside with this Council.*

The Commission welcomes the establishment of this new council, participation in which involves Zoology (CBS), Animal and Poultry Science (OAC), and all departments of OVC. Environmental Biology should also be included, since it is in that department that the University's strength in Entomology re-

sides. The University of Guelph has enormous strength in pure and applied animal biology, and coordination in this area is important.

## Business

### RECOMMENDATION # 60:

*The Business Council should extend its efforts in coordinating undergraduate and graduate education on campus to include involvement with neighbouring universities. Attention should be given to a growing need to include business-related experiences for students in other programs and growing opportunities related to Open Learning. Consolidation or restructuring of the relevant departments at Guelph must also be considered.*

The Business Council has been one of the University's most successful attempts to break down the barriers between departments. The successes include the recent revamping of the B.Comm. undergraduate degree through cooperation between the Departments of Agricultural Economics and Business, Consumer Studies, and Economics, and the School of Hotel and Food Administration. This effort has also led to the development of two niche MBA programs, and all of this in times of decline in faculty numbers and of increases in student interest in the various programs offered by the departments. The Commission supports the work of the Business Council, noting that there would be value in expanding the Council to include Psychology (e.g. industrial psychology and Sociology/Anthropology (e.g. sociology of organizations) and in pursuing the initiative already begun to collaborate with nearby universities (e.g. between HAFSA and Waterloo in the area of Tourism). We also foresee that there will be great pressure to include business-related experiences for students from other programs. This exposure could run all the way from the addition of a few courses to a program through to the addition of a complete year of such courses as part of a five-year program. However, such initiatives would have significant resource implications.

## Cultural Studies

### RECOMMENDATION # 61:

*A Cultural Studies Council should be formalized to coordinate interdisciplinary teaching and research in this emerging area. It is anticipated that, over time, the responsibility for the University's programs in Women's Studies, Canadian Studies, Scottish Studies, and European Studies would fall to this Council.*

A large amount of activity in this area already exists in the Colleges of Arts and Social Sciences but has hitherto not been coordinated. Supporters of Cultural Studies suggest that it could "reorient academic practices across undergraduate, graduate, and research activity" in these colleges. Interdisciplinary activity already exists in a number of areas, and there is faculty support for further initiatives in Native, Post-colonial, and American Studies. Proposals for a Chair in Cultural Studies predate the establishment of SPC.

## Ecology and Evolutionary Biology

### RECOMMENDATION # 62:

*Discussions among ecologists and evolutionary biologists should determine whether the formation of a council is viable.*

Ecology is an important element of Guelph's emphasis in life sciences and environmental sciences. Ecologists and evolutionary biologists are located in several different departments. Undergraduate programs in Ecology are offered in both the B.Sc. and B.Sc.(Env.) programs, and an emphasis in ecology exists in several graduate programs. In the late 1980s, a CBS Ecology Advisory Committee recommended the establishment of a separate Ecology Department. The Commission recognizes the importance of promoting synergy among biologists whose interests lie at the level of organization of ecology and population dynamics, but it does not favour the creation of a new department. A council is considered to be a better alternative.

## Environment

### RECOMMENDATION # 63:

*The existing Environmental Science Council, together with the Deans of the relevant colleges, must reconsider*



*the membership of the Council with a view to enhancing collaboration among all departments with an interest in the environment. In recommending changes, priority must be given to including these Deans as members.*

#### ACTION: SCUP

Five years ago the University made a decision to build upon its many relevant strengths to develop an undergraduate program in environmental science, to complement the more common environmental studies programs at a number of other universities. The B.Sc. (Env.) degree program that was developed, as an initial step, remains perhaps the best example of a broadly based environmental science degree in Canada. The Faculty of Environmental Sciences was created with a membership drawn from faculty across campus to support this program and to promote the range of environmental programs offered by the University. The Faculty has subsequently become the administrative "home" for the Director of the Institute for Environmental Policy and for three major interdisciplinary research initiatives — the Tri-Council Research Program in Agroecosystem Health, the Tri-Council Chair in Ecosystem Health, and the Computing Research Laboratory for the Environment. A proposal for new Masters degree program is currently being developed. While these accomplishments have been particularly significant, there are issues that merit further attention.

Foremost among these issues is the structure of the Faculty itself. Many faculty across campus are involved in teaching and research related to the environment, and yet there is no formal administrative link between these faculty, their chairs, and the Associate Dean of Environmental Science. Opportunities for coordination in hiring, the use of physical resources, and course offerings exist among these units. The sheer number of units involved, however, creates a major challenge. Related to this issue is the need to accommodate "non-science" units with interests in the environment, such as those supporting the environment major within the BA program.

The Academic Planning Committee considered a number of options for the Faculty of Environmental Science, including the formation of a separate college, inclusion in a new college of agriculture and environment, and abandonment of the Faculty altogether. The Committee subsequently recommended that the Faculty be retained in its current form. The SPC fully supports this recommendation. The position of the Associate Dean of Environmental Science is unique within the University, and the Commission supports retaining that position with the responsibilities currently described. The need for more effective coordination, however, still remains.

The present Environmental Sciences Council was established to advise the Associate Dean, assist with coordination, and function in a manner parallel to that of a college Dean's Council. The membership of the Council includes the Associate Dean, the Designated Dean, and a Chair from each college that is directly involved in the B.Sc. (Env.) program. A membership that is similar to the membership of other councils may be more appropriate to address the need for increased collaboration. This would require, as a minimum, participation of the Deans from each of the colleges; in this way, all departments would be represented at least by their deans. (The inclusion of over twenty chairs is thought to be unwieldy.) It may also be desirable, in this Council particularly, to include in the Council's membership some faculty with strong interest in the field.

#### Food

##### RECOMMENDATION # 64:

*After paying much attention to the area of research and the interface with industry, the Food Council should now pay more attention to undergraduate matters, where the situation is characterised by relatively rich course offerings and relatively low enrolments in several of the food-related undergraduate programs, an exception being Applied Human Nutrition.*

Since its creation almost five years ago, the Food Council has served as a link between the many departments on campus that have a role to play in the area of food. The recent relocation of Federal and Provincial Government administration and research facilities,

as well as the establishment of the highly innovative Guelph Food Technology Centre, should provide many opportunities for fruitful collaborative ventures between the University, government, and industrial sectors. The departments constituting the Food Council have not yet participated to an equal extent in its activities, nor has there been balanced involvement of the Food Technology Centre in undergraduate, graduate, and research matters.

#### Microbiology

##### RECOMMENDATION # 65:

*A Microbiology Council should be formalized to coordinate the University's activities in Microbiology. This group should have the responsibility for determining whether any consolidation of microbiologists into a smaller number of departments should occur.*

Microbiology is a cross-department activity which takes place in the Departments of Microbiology (CBS), Environmental Biology (OAC), Food Science (OAC), and Veterinary Microbiology and Immunology (OVC). All four departments, together with Molecular Biology and Genetics, cooperate in offering undergraduate courses through an informal Microbiology Council consisting of the Chairs. Cooperation between Microbiology and VMI, in particular, occurs at the research level; however, the interdepartmental graduate program in microbiology was recently removed from the graduate calendar for lack of interest.

#### Molecular Genetics

##### RECOMMENDATION # 66:

*A Molecular Genetics Council should be created and have responsibility for coordinating aspects of the relevant teaching programs. The Council should co-ordinate hiring and the acquisition, housing, and maintenance of research equipment infrastructure that is needed to support research and teaching in this area.*

The field of molecular biology has revolutionized teaching and research in all areas of biology, and has spawned the growing biotechnology industry. Biotechnology is taken here in the broadest sense to encompass an array of scientific tools used to study or modify the growth, reproduction, and development of living organisms. Biotechnological methods are used in both basic and applied research, and their widespread adoption has blurred historical distinctions among many biological disciplines. These technologies are being used to dissect the complex molecular processes that control activities at a cellular level. The products of biotechnological research are expected to have a profound effect on life in the 21st century. Faculty, staff, and students located in many departments are involved in basic and applied areas of molecular genetics, using all the techniques of biotechnology. Our use of such techniques in biology generally, and in plant and animal biology in particular, is quite dissimilar to that of other Canadian universities, many of which emphasize medical biotechnology. This suggests an opportunity for Guelph — in undergraduate and graduate education and in research — to apply our expertise in pure and applied molecular biology in areas of strength such as agriculture and environment. Insufficient coordination among efforts in several departments has hindered our progress. The increased emphasis by major funding agencies on collaborative research proposals presents an incentive for more effective interaction; the high cost of research infrastructure (e.g., for automated DNA sequencing) poses a challenge.

All of the above factors point to the establishment of a Molecular Genetics Council. Inevitably there would be a degree of overlap in the membership of the Molecular Genetics Council with those of the Animal Biology and Plant Biology Councils. This duplication is minimized by proposing a Molecular Genetics Council, rather than an Molecular Biology and Genetics Council.

#### Plant Biology

##### RECOMMENDATION # 67:

*The Plant Biology Council should continue to coordinate teaching, research, and service in plant science. The mandate should be expanded to include the realignment of relevant departments on campus, or the development of other means of enhancing collaboration in administration, research, and graduate education. The Council should extend its efforts to include col-*

*laboration with neighbouring universities. The expanded Council might be better able to seek external funding for shared capital facilities and major infrastructure.*

Guelph is the only university in Ontario with the full range of capabilities to link basic and applied teaching and research with service to the professional fields of agriculture, horticulture, forestry, recreation, and natural ecosystems management. The discovery of new knowledge and its integration with worldwide advanced research are critical to this role and to the reputation of the University in plant science.

Current structures and programs may not facilitate the full realization of the University's potential in Plant Biology. The Plant Biology Council has provided leadership in the recent evolution of undergraduate programs and in other cooperative efforts. These efforts might develop further if the University considered establishing a Plant Biology Institute with core members drawn from the faculty of the Departments of Botany, Crop Science, Environmental Biology, and Horticultural Science. Some faculty in Land Resource Science and Molecular Biology and Genetics would also be core members of the Institute, along with affiliated members drawn from other Guelph departments which might include Chemistry and Biochemistry, Food Science, Geography, and Landscape Architecture; from nearby Universities including Waterloo, Wilfrid Laurier, and McMaster; and from federal and provincial institutions. Whatever the outcome of any reorganization, the University must continue to support the discipline of botany (as opposed, necessarily, to continuing to support a department of this name).

#### Rural Communities

##### RECOMMENDATION # 68:

*The Council on Rural Communities should evaluate the merits of introducing an undergraduate major in rural development and should promote the growth of graduate education in this area.*

Strength in rural communities (and their development) is an important complement to the University's commitment to its areas of special responsibility, and its strength in life sciences and environmental sciences. Expertise in rural development exists in several departments including Rural Extension Studies, Rural Planning and Development, Geography, Sociology and Anthropology, Family Studies, and Landscape Architecture. Our collective strength in rural development, however, is relatively small, and it is widely dispersed. The Commission believes there is a need to bring more focus and coordination to this area before consideration is given to expanding our effort.

Two steps have already been taken to increase the focus and degree of collaboration. The School of Rural Planning and Development, the School of Landscape Architecture, and the Department of Rural Extension Studies have proposed a merger of the administrative components of the three units, a change that would preserve the identity of the professional programs. The recently approved Ph.D. in Rural Studies is a collaborative effort involving several departments in different colleges. In addition, a council on Rural Communities is currently being established. The emphasis of the Council should be on cross-college coordination.

Much of the emphasis in rural development is currently directed to graduate education. (Two units, Rural Extension Studies and Rural Planning and Development, focus their teaching efforts primarily at the graduate level.) The need and financial feasibility of developing an undergraduate specialization in rural development should be carefully assessed, and considered in relation to needs at the graduate level. Several undergraduate courses are already offered with a rural development component, but it is unclear whether these courses alone could be assembled into a coherent and unique major, or whether there is the need or demand for such a major.

#### Toxicology

##### RECOMMENDATION # 69:

*A Toxicology Council should be formally established, and the Council should give priority to developing a graduate program (to be approved by OCGS within 5 years) and to enhancing coordination with CNTC.*

Toxicology is an interdepartmental activity

under the direction of a Coordinator. Both undergraduate and graduate programs have been established, each of which is run by a management committee having some of the functions of a council. As part of strategic planning, faculty in this area were asked to comment on the desirability of forming a separate Toxicology Department; this was not favoured, on the grounds that the faculty involved did not wish to weaken links with their present colleagues. Recently, a group more closely approximating a council has been established; this comprises the Chairs and Deans of the relevant departments and colleges, plus the Toxicology Coordinator. The Commission supports this development, as bringing the management of Toxicology more into line with the management of other interdepartmental disciplines.

At the graduate level a Collaborative Program has been offered since 1990; however, there have never been sufficient faculty to offer a defined set of toxicology courses at the graduate level. Many graduate students working on toxicology-related projects find no advantage in registering in the Collaborative Program, and remain associated with the supervisor's home department. The Commission suggests that the graduate program move, within the next five years, from a Collaborative Program to one that is separately appraised by OCGS. In the area of research, Guelph is the national headquarters for the Canadian Network of Toxicology Centres (CNTC). While CNTC greatly increases our profile in the field of Toxicology, the activities of this national research network are not well integrated with the academic programs of the University of Guelph. We have not profited to the degree we might from the presence of CNTC at Guelph, and the Toxicology Council should address this matter.

#### Other Areas

##### RECOMMENDATION # 70:

*Faculty associated with existing councils in Bio-Medical Sciences and Health Sciences should re-examine the role of these Councils in light of other structural changes and either strengthen or disband the Councils. The Provost should facilitate these discussions.*

The Bio-Medical Sciences Council is principally involved with the coordination of a successful new undergraduate specialization in Bio-Medical Science. It involves the Departments of Biomedical Sciences and Nutritional Sciences and the School of Human Biology. In the event of a successful merger between Human Biology and Nutritional Sciences, it may be unnecessary to continue a council involving only two departments.

The Health Sciences Council has not been active recently. Considerable strengths exist at the University of Guelph in areas related to the family, children, and old age; while these could be combined in a focus around the family, that focus would fall within the mandate of the present Department of Family Studies. The Health Sciences Council should present a case for its continuance or disband or merge with the Bio-Medical Sciences Council.

#### b. Program Committees

Program committees are a different form of interdepartmental structure. Senate has given excellent mandates to program committees; therefore, we do not recommend changes, but do recommend that BUGS monitor program committees to ensure that they carry out these mandates. Too great a proportion of the effort of many program committees is currently being spent on the minutiae of course and program changes, and too little on the overall management of the degree program.

##### RECOMMENDATION # 71:

*Program committees should be re-structured. Members of program committees should be appointed by the Deans to guide the program. Committees must be of a manageable size; thus, not all departments, councils, or interdisciplinary programs will be represented.*

ACTION: Deans, BUGS

#### c. Other Cross-Unit Structures

Other interdepartmental structures that currently exist to foster interdisciplinary activity include interdepartmental programs at the undergraduate and graduate levels and research centres. A number of interdisciplinary specializations are offered at the undergraduate level (e.g., Canadian Studies,



Information Systems and Human Behaviour, International Development, Women's Studies, Plant Biology, Toxicology). A large number of interdepartmental groups exist for the purpose of offering graduate programs (e.g., Aquaculture, Biophysics, Food Safety and Quality Assurance, International Development, Plant Physiology, Resource and Environmental Economics, Toxicology, Veterinary Science). Research centres that span colleges also exist (e.g., Land and Water Stewardship, Gerontology, Toxicology, and Equine Research). Many of these programs and centres relate to one of the Councils listed above; it is reasonable to expect that the Councils would take on responsibility for relevant programs and centres. Interdisciplinary programs or centres that are not compatible with the proposed set of councils could continue in their present form.

## H. RESOURCE ALLOCATION

### 1. Principles of Resource Allocation

The process of allocating resources (human, physical, and financial) among academic and all other budget units is an incomparably potent force in helping the University as a whole to pursue its vision. The process should allow units to fulfil defined functions, should provide incentives to use resources effectively, should reflect and enhance quality, and should make it possible to respond to Strategic Directions and new opportunities. It must also permit flexibility in the institution as a whole. The resource allocation process should not be a proxy for decision-making; rather it should be a means of implementing decisions made outside of, and prior to, the resource allocation process.

A university is a large and complex community, encompassing many academic cultures and a wide range of support functions. A university also has built-in "delay times" dictated by the duration of degree programs, the pace of retirements, etc. For these reasons, the University can neither allocate its resources in a purely mechanistic way nor proceed in a purely subjective way.

The desire to maintain a climate of openness and trust demands that the resource allocation process be rational and transparent and that there be a clear line of accountability. There are obvious advantages in making public the criteria or data associated with the resource allocation process. First, there is a need for more explicit accountability in the use of public funds. Second, we are entering a period of intense fiscal constraint. Third, accountability by senior administrators in the allocation of scarce resources is essential. Fourth, a clearer understanding by faculty, staff, and students of how and why funds are allocated may induce a greater sense of realism in the expenditure of these funds.

The Commission has not solved the question of the appropriate distribution of resources between academic and non-academic units. There can be no stable answer to this question; there must, however, be a shared understanding that the fundamental purpose of non-academic units is to support the academic mission of the University. Resources must be allocated with that end in view. Notwithstanding the differences between academic and non-academic units, it is proposed that a common feature of the allocation process for both areas be periodic reviews. Annual decisions on the appropriate balance between academic and non-academic units will be tied to the resource allocation process and associated reviews, which are still to be developed. Details are provided in the following section.

### 2. Allocation of Resources among Units

#### RECOMMENDATION #72:

*The allocation of resources to academic units should be based on the following elements:*

- (i) rational and transparent measures of instructional effort including:
  - undergraduate and graduate instruction, both disciplinary and interdisciplinary;
  - activities supporting undergraduate education such as advising, coordinating semesters abroad, supervising experiential education programs, and curriculum develop-

ment;

- participation in undergraduate and graduate courses taught outside the academic unit;
- activities supporting graduate education such as participation on advisory, admissions, and examination committees;

(ii) quality of teaching, research, and service.

*In addition, the allocation of resources should include short-term or one-time funding for programs that will allow or encourage:*

- (iii) implementation of the University's Strategic Directions;
- (iv) development of new opportunities;
- (v) increased efficiency in the use of resources (increased efficiency should not be a *prima facie* reason for the reduction of resources to a unit).

*The allocation of resources should make explicit the instructional effort that has been resourced.*

*ACTION: The Provost and Deans should develop a plan for allocating resources to colleges and thence to departments based on these elements and report to Senate by January, 1996.*

Issues addressed by this recommendation include the assessment of quality, funding for distance education courses, enrolment management, and the need to identify time for curriculum development (including distance courses).

In 1981, the Deans and Vice-President Academic, in the Report of Working Group I, rejected the simple expedient of distributing resources solely on the basis of instructional effort. It was recognized that there must be flexibility sufficient to encourage and reward the quality of scholarship in individual departments. Other universities in Ontario have taken the same view. The SPC agrees: in a research-intensive university, we must direct resources toward the research portion of our mandate. Because we value the quality of instruction and the quality of service, SPC believes that these should also be reflected in the allocation of resources.

The issue of funding for distance education courses is addressed by the requirement that departments know how many students and/or courses they have been resourced to teach.

The allocation of resources to academic units cannot be considered in isolation from issues of enrolment management. There are no general controls on enrolments in specializations. Departments currently "manage" enrolment by imposing limits on enrolment on individual courses — and the first students to be dropped (within the program or outside it) are those who do not require the course. Limits are determined by available resources, have become increasingly common, and will increase further as resources become even more constrained. The process, if allowed to continue without control, will radically undermine the benefits of study in a comprehensive university.

There is only so much that we can do about this problem. One part of the answer is gate-keeping at the point of entry to specializations; but that, of course, leaves moot the question of where excluded students can be accommodated and the degree of choice that will be available to them. Another part of the answer is the need for departments to organize themselves in such a way that their responsibility with respect to accommodating students outside of the department (in "service courses" and through reserved space in courses that function as electives) is met; the resource allocation process should include a measure of the University's expectations in this regard. The SPC recognizes that such expectations can be met only at the expense of curricular richness within specializations; however, an appropriate balance must be struck and cannot be left to chance or the tender mercies of departments. Automated registration procedures (i.e. telephone registration) should make it possible for students to prioritize desired electives — thus allowing the University to make the best possible use of a limited capacity.

The resource allocation process should also identify resources for curriculum development, to the extent that may prove possible. In this regard, the utility of distance education courses in accommodating students who cannot be placed in regular courses is worthy of note.

Expectations with respect to participation in interdisciplinary teaching, service in program administration (such as Chair of

BUGS), coordinating a semester abroad, etc. should be reflected in the resource allocation process, in order to make clear that faculty "belong" to the University and not just to their departments.

The resource allocation process proposed here emphasizes the line management model (central administration → college → department). But to overcome problems experienced by interdepartmental structures, particularly those spanning more than one college, some means must be found to link resource allocation and the interdepartmental structures. Two questions then logically arise: which interdepartmental structures should be integrated with a line-management resource-allocation process, and how can the integration be most effectively achieved? In answering both questions, it will be essential to keep the resulting system of management simple, to avoid creating an additional or overlapping layer of administrative bureaucracy, and to ensure that there are clear lines of accountability.

Interdepartmental structures that might be candidates for more effective integration with the resource-allocation process include councils and research centres. The primary role of both is coordination. Research centres that span colleges should be incorporated into councils whenever possible; others should have their own budgets. Councils can be effectively integrated with the resource-allocation process if a dean functions as senior fiscal advocate, and as the person to be held fiscally accountable for a given council's activity. The chair of a council would have the same relation to the designated dean as the chair of an academic department has to a dean, in terms of advising on the allocation of resources. This is not a new arrangement; the Plant Biology Council is already functioning in this manner.

The resource-allocation process must also take into account existing levels of support (e.g. numbers of instructors and operating funds). The ratios of instructional effort to existing levels of support could be related to norms that vary across "cultures" in the institution. Departments with ratios falling outside of a pre-defined corridor around the norm would have their budgets adjusted over time and/or change their instructional effort. The committee considering resource allocation identified a number of limitations associated with current measures of instructional effort (T-units). The SPC has not attempted to develop new measures of instructional effort; neither has it considered norms in teaching loads or the ratio of instructional effort to operating funds across the different cultures on campus.

#### RECOMMENDATION #73:

*The Provost, in conjunction with Academic Council, should develop indicators to assess the quality of scholarship (teaching, research, and service) of departments. It is expected that some criteria would be common to all departments, whereas others would be specific to particular academic cultures; it is also expected that some indicators would involve national and international comparisons. Departments should undergo external review every seven years, in conjunction with reviews of graduate programs wherever possible.*

#### RECOMMENDATION #74:

*Annual reviews and comprehensive reviews (every seven years) should become part of the resource allocation process for all non-academic units, and the Vice-President Academic, and Vice-President Finance and Administration should develop the review process.*

The nature of the review of the strengths and weaknesses of units providing services to students or providing academic and administrative support precluded a rigorous assessment of the adequacy of resources allocated to different functions. SPC's process did, however, indicate that a formulaic resource-allocation model cannot be applied to these functions.

A regular review that is linked to budget allocations is a logical route to well-informed budget decisions. The challenge, then, is to develop an appropriate review process. The review process should be regular, rather than precipitated by an irregular basis, and follow well-defined criteria for assessment; should inspire trust, avoid false expectations, and enhance collaboration between units that participate in the same function; should identify ways of offering a better or more efficient service and of creat-

ing a better working environment for those offering the service; and should assess the claim of the function to scarce financial resources.

Factors to be taken into account in the review process may vary with the function being reviewed and will need to be defined in consultation with units serving that function, before the process begins. The following factors should be considered in all reviews:

- Current goals and workplans, in relation to the mission of the University and relevant trends or forces originating from inside or outside the University
- Demand for services and critical cost/benefit analysis of service; high demand for a service does not imply affordability, and low demand does not imply that the service is unimportant
- Evaluations by users of services and response of unit to evaluations
- Strengths/weaknesses of unit
- Opportunities for similar services to be provided off-campus
- Linkages to academic and research programs and the needs of these programs
- Income/expenditure/level of service in relation to units performing a similar function in other universities considered to be performing this function in an exemplary manner.

Each unit should review itself annually according to a prescribed set of factors and outline its workplan for the following year in conjunction with any other units participating in the same function. The workplan of the unit should be linked with the individual workplans of members of the unit. Reports should move through to the relevant vice-president, and then to the Provost and President. Senior administrators should be involved in approving, rejecting, or proposing modifications to workplans and recommendations arising from the review.

Each function should undergo a comprehensive review every seven years by a review team whose membership includes external consultants, the Vice-President Administration (or designate), a dean, and members of the University external to the units being reviewed who utilize the service. A draft copy of the report of the review team should be provided to the unit on a confidential basis for comment before the final copy is prepared and is forwarded to the Provost and President.

### 3. The Reallocation of Resources and Flexibility

#### RECOMMENDATION #75:

*Funding from all vacated faculty positions (except those resulting from negative tenure decisions) and staff positions should revert centrally (President and Provost) to facilitate reallocation of resources and enhance budget flexibility.*

Historically the University has changed its conformation through the allocation of new resources to support new opportunities. In an era of declining resources this approach is no longer tenable. Instead, reallocation of existing resources must be our primary means of supporting new initiatives or strengthening existing areas. With most of our budget tied to personnel costs, the recommendation above is essential if we are to reconfigure our institution. This central budget flexibility will be essential for the institution to respond both to internal pressures for change and to external financial pressures.

## I. SERVICES TO STUDENTS/ACADEMIC AND ADMINISTRATIVE SUPPORT

Services were examined from the perspective of function rather than administrative unit. Four issues were identified as having a major impact on the ability of the University to realize its vision: stronger links between service providers and academic programs; improved advising and counselling; the provision of adequate library resources; and the development of an institutional strategy in computing and networking. A number of important operational issues identified in the Task Force reports will need to be considered at a later stage of strategic planning process.

Over the past two decades universities have



experienced a significant shift in the nature of services provided to students and faculty, a shift that has been caused by the proliferation of regulatory requirements, by our perceived need to excel in the provision of services, and by increased faculty workloads. More and more professional staff have been engaged in providing services to students and faculty and in supporting the learning environment.

## 1. Links Between Service Providers and Academic Programs

### RECOMMENDATION # 76:

*Greater integration between academic areas and student support service areas should be achieved. In particular, the roles and potential for cooperation between Teaching Support Services and the Counselling Student Resource Centre should be examined.*

**ACTION:** Provost

Support areas should support the academic enterprise. The recent decision to have the Vice-President Academic function also as Provost is an important step in promoting appropriate integration and clarification of roles, but these must be fostered at other administrative levels as well. While opportunities for more effective collaboration with academic units exist across campus, student service areas may be particularly critical. Our challenge is to harness and coordinate the considerable strengths that exist both there and in academic units, so that the commitment both groups have to the welfare of our students will yield the best possible learning experience. Examples of such synergy include the development of the Office of First Year Studies and associated programs, Introduction To Higher Learning (58-150), and the very effective involvement of student affairs professionals with OAC's Vision 95. We believe that additional opportunities may exist. For example, the degree of integration between Teaching Support Services and the Counselling and Student Resource Centre should be examined by the units involved, perhaps with a view to creating a Learning and Teaching Group. A second possibility (already being considered) is to eliminate the Senate Committee on Student Development, transferring its responsibilities to BUGS, which would then have a broader, more appropriately integrated mandate with respect to student learning and development. This expanded mandate could be supported by the inclusion of student affairs professionals as members or resource people.

## 2. Advising and Counselling

### RECOMMENDATION # 77:

*The Associate Vice-President Academic should develop a plan for counselling and advising that reflects the following features:*

- Program counsellors should report to the Associate VP Academic, as well as relevant deans.
- Greater equity must be achieved in the workloads of program counsellors.
- A central site for all academic advising at the program level should be created.
- Career counselling should continue centrally, but must also make its way much more effectively into departmental and program counselling.
- First-rate counselling documents must be produced at the department and program levels.
- More regular and effective communication amongst program counsellors and between program counsellors and departmental advisors must occur, as well as between these individuals and curriculum and program committees.
- The importance of the advising function must be reflected in the training, selection, and evaluation through Tenure, Promotion, and Selective Increment Committees of departmental academic advisors.

The SPC notes that the anticipated reduction of specializations and courses may ease matters, but that a move to a single entry point and the change to a more learner-centred curriculum will present new challenges. Effective academic advising and counselling are critical for students, and must be a high priority for the University. Our counselling

function has been examined from different perspectives and by several different groups over the past decade, and positive changes have occurred as a consequence of these reviews. Still, students looking back on their undergraduate careers remain seriously dissatisfied: only 45% of graduates express satisfaction with the quality of academic advising/program counselling, and only 29% with career counselling. The problems identified in earlier reviews of this function are addressed by the above recommendation.

Counselling and advising are currently being delivered in a number of different ways, some of which are very expensive. The University should explore a range of options for providing counselling and advising, both academic and personal, that are more cost effective.

## 3. Library

### RECOMMENDATION # 78:

*The Provost and Chief Librarian should move as quickly as possible to document delivery and increased collaboration with neighbouring universities. The need for an appropriate balance between monographs and journals (including electronic forms) must be examined in each discipline in light of needs related to self-directed learning and research intensiveness. Professional librarians must play a greater role in the development of these collections. The Library budget as a whole should be re-examined in the light of opportunities for collaboration and document delivery, with a view to improving service.*

The Library is a campus repository for ideas and information needed to support our academic mission. In an increasingly learner-centred and research-intensive university, its importance for students can only grow. The problem, of course, is that in an era of proliferating materials and escalating costs we cannot afford to own everything that faculty and student researchers will require. The solution to our quandary lies in collaboration with other libraries and in document delivery systems, which can provide electronic access to rarely used periodicals. The SPC commends the Library on its recent initiatives in this regard, and supports a speedy move to further collaboration and document delivery. Another important change to our research environment is increased electronic access to information and bibliographic data bases around the globe; this too will have implications for Library acquisitions and priorities.

Budget constraints have made it impossible for the Library to sustain the quantity and quality of service to which users were once accustomed. Books take longer to return to the shelves after use, subject specialists are less frequently available for consultation, and longer lines appear at circulation desks. Another serious problem relates to acquisitions librarians, and Guelph's historical, heavy reliance upon the efforts of faculty in this regard. Most prominent university libraries have placed a greater emphasis on acquisitions librarians, to achieve balanced collections. A hybrid model seems most desirable in a research-intensive, learner-centred university. Faculty must, of course, continue to play a major role, but if the Library can devote a larger share of its resources to acquisitions work, it should do so. Service to student researchers will be increasingly important, and the Library budget must be adequate to meet this need.

## 4. Computing and Communications Technology

### RECOMMENDATION # 79:

*The Provost should (a) undertake a comprehensive assessment of the needs and responsibilities of the University with respect to computing and communications hardware, supporting software, resources (human and financial), and decision-making structures and (b) develop a comprehensive plan that will be responsive to evolving needs and technological opportunities over the next decade.*

**ACTION:** Provost should present the report to Senate for information and action by June 1996

Recent advances in computing and communications technology are nothing short of revolutionary. Powerful low-cost workstations, the convergence of voice, data, image, and video technologies, and the explosive growth of worldwide networks offer oppor-

tunities that will have a profound impact on the University of Guelph. Developing the right decision-making process, choosing the right opportunities, and then investing in hardware, software, technical support, and appropriate training will be essential.

Computer-assisted instruction is one important way of addressing both faculty/student ratios and increased emphasis on self-reliant learning; it will also play an important part in initiatives relating to distance education and inter-university collaboration. Student access to computers is addressed in an earlier recommendation (#13), but in this regard and others it is essential to have a unified policy (e.g. institutional standards for hardware and software); the University cannot allow individual departments or colleges to "go it alone" because of its own tardiness in adopting the most appropriate policies and technologies. Faculty and staff access to appropriate computer hardware, software, and networks is also essential but is not given a sufficiently high priority in some areas of the University. Other critical issues to be addressed include adequate support and training; the use of a common, comprehensive data base for management information; one-time data entry at the initial point of transaction; and the University's urgent need for an automated registration system to facilitate enrolment management.

## J. HUMAN RESOURCES



The success of the University in fulfilling its ongoing responsibilities and in undertaking any strategic initiatives will ultimately be determined by the commitment, skills, and enthusiasm of members of the community — and by the degree to which a climate of trust and respect, as well as open and candid communication, exists within the institution as a whole. Other factors that will be important to the success of the University include a sense of community and common purpose, the belief that one's time at work is well-spent and well-recognized, and time enough outside of one's working life for personal interests and commitments.

A comprehensive human resources management plan is essential to the achievement of these objectives. The plan must include a well-articulated University human resources management philosophy that helps to define the climate in which the community wishes to work. This philosophy should outline what employees can expect from the University, and what the University expects in return. The human resources management plan must also address issues related to professional development, assessment of performance, compensation, and terms of appointment. The human resources management philosophy and the Strategic Vision and Enabling Strategies must be reflected in the manner in which these issues are addressed.

## 1. Human Resources Management Philosophy

### RECOMMENDATION # 80:

*The University should develop a comprehensive human resources management philosophy.*

**ACTION:** Vice-President Finance and Administration

We propose that the management philosophy include the following elements:

- Each member of the University community has a role to play in fulfilling the mission of the University.
- We will pursue our mission in a climate of trust and respect for all members of the University community; differences of opinion are valued and must be aired openly and amicably.
- Management will be practised in a professional manner throughout the University.
- Individual contributions are valued, as are contributions involving collaboration. Creativity and reasonable risk-taking in pursuit of educational, research, and service goals are encouraged.
- Decisions are made at the lowest possible level with responsibility and authority clearly defined.
- Management will be characterized by team-work, open and honest communication, and a shared vision of the future of the University.

- The assignment of responsibilities should provide, on an on-going basis, the best possible match between the unique skills, abilities, and needs of the individual and the needs of the institution.
- Cultural diversity is highly valued at the University of Guelph. Cultural diversity brings a richness of perspective and experience critical to our future.
- University employees are expected to strive for excellence in their work, and excellence will be recognized wherever it is achieved.
- Continuous renewal and intellectual growth are required of everyone.

This list is not intended to be exhaustive. The elements are not novel and are not new to Guelph; indeed their value lies primarily in the articulation of a comprehensive philosophy that will guide our actions and decisions.

The element of the philosophy related to cultural diversity merits specific comment. The University is committed to increasing the cultural diversity of its faculty and staff; the richness of perspective that this brings will be important for many reasons, not the least of which is the provision of role models for students with culturally diverse backgrounds. We must also ensure that the campus environment is welcoming, hospitable, and free of discrimination for all employees. The issue of role models for students underscores the importance of continuing our efforts to increase the number of women on the faculty, especially given the very high proportion of women students at the University of Guelph.

Implementation of the human resources management philosophy will be the responsibility of the entire community. Accountability for implementing the philosophy must rest at departmental, managerial and individual faculty/staff levels. The President and Vice-Presidents must be responsible for embracing and promoting this philosophy on ongoing basis and for facilitating its implementation.

Human resources management plans that reflect both a well-defined human resources philosophy and decisions arising from strategic planning must be developed. These plans should motivate staff at all levels to fulfill their responsibilities in an effective and efficient manner. Some aspects of these plans are discussed below; others will need to be developed by the Human Resources Division in consultation with the appropriate units.

### RECOMMENDATION # 81:

*Provision should be made, in both policy and practice, for including one or more staff members as full members of the selection committees for academic administrators and non-academic administrators.*

**ACTION:** JFPC, Provost

This recommendation reflects the principle that members of all sectors of the University are equally valued. At the present time, procedures for the appointment of academic administrators call for representation on selection committees by academic administrators, regular faculty, and students. No provision is made to benefit from the expertise of staff members in these searches (see Faculty Policy C.1.6, Section 3.04). Current policy related to search committees for senior non-academic positions (University Policy # 301) should be revisited, to make the inclusion of staff on these committees explicit. The SPC intends this recommendation to be a model for the inclusion of staff input and representation on all important University committees.

## 2. Professional Development

If, as an institution, we wish to pursue new directions, then we as individuals must be equipped with the skills that will allow such shifts to occur.

### RECOMMENDATION # 82:

*The skills that are most crucial to the implementation of the Strategic Plan must be defined, and appropriate programs must be available to staff at all levels to support the development of those skills.*

**ACTION:** Human Resources

The development of these skills will require that funds currently used to offer programs related to personal and professional development be appropriately focused. This may require a reallocation of budgets. Wherever possible, employee-initiated professional



development programs should be aligned with the Strategic Plan.

#### RECOMMENDATION # 83:

*Professional development opportunities that will assist faculty to explore the implications of a learner-centred curriculum and to identify opportunities that may enhance the current learning environment must be made available on an ongoing basis.* ACTION: TSS

#### RECOMMENDATION # 84:

*Ensuring that GTAs have the skills necessary to support a learner-centred curriculum should be a high priority for the University.* ACTION: Chairs and TSS

Inclusion of more small-group experiences in the undergraduate curriculum will increase the need for GTAs who are not only well qualified in the relevant fields of study, but also skilled in the facilitation of learning. Like faculty, GTAs will need opportunities to develop their skills in support of a more learner-centred approach.

In co-operation with departments, TSS should develop improved centralized training, including training within disciplinary clusters; it could supplement workshops with video, print-based and computer-based instruction. The time required by graduate students to participate in these training programs must not be funded by the research grants and contracts of the students' advisors.

#### RECOMMENDATION # 85:

*The University should ensure that formal professional development programs, to include specific emphasis on budget and personnel management, are available for new managers and academic administrators.* ACTION: Human Resources

New managers and academic administrators are often appointed with limited management experience. Skills related to budget and personnel management are particularly important. The ongoing turnover of administrators, particularly department chairs, means that the periodic offering (e.g. every 3-4 years) of a course would be of limited value. The development of self-study materials, course modules and sessions developed and offered in collaboration with neighbouring universities, and courses such as SUAC (Senior University Administrators Course) may be appropriate alternatives.

### 3. Assessment of Performance and Compensation Issues

Assessment of the performance of employees within the context of the Strategic Plan, as well as the provision of appropriate compensation, will be critical to our success.

#### RECOMMENDATION # 86:

*The University should introduce for all its managers and academic administrators a performance review program that measures progress toward specific, agreed upon goals.* ACTION: Provost, Deans, Vice-President Finance and Administration, Human Resources

The goals agreed upon should arise from the development of plans made at the unit level in the third and final stage of Strategic Planning.

#### RECOMMENDATION # 87:

*Performance review programs for staff should take into account contributions in support of the Strategic Vision and should include appropriate measures of satisfaction on the part of individuals and units served.* ACTION: Vice-President Finance and Administration, Provost

#### RECOMMENDATION # 88:

*The professional development and renewal of individuals within their units must be a priority for all supervisors including deans, directors, department chairs, faculty and librarians in supervisory positions, and non-academic managers. Accountability through the performance review process.* ACTION: Provost and Human Resources

#### RECOMMENDATION # 89:

*A common set of University-wide standards for tenure, promotion, and selective increment must be developed.*

#### ACTION: Provost and JPFC

The articulation of these common standards should ensure that faculty performance related to the University's strategic directions is carefully evaluated, that interdisciplinary work is properly recognized, and that measures of quantity do not replace the more critical assessment of quality and impact. JPFC guidelines relating to the manner in which performance is evaluated should be revisited. Departments should be encouraged to develop their own criteria elaborating on the University standards, as before; these could set higher standards, but must conform to the University's minima at least.

#### RECOMMENDATION # 90:

*Ways must be found to make the tenure, promotion, and selective increment process more effective.* ACTION: Provost and JPFC

The effectiveness of the TP&SI process should be determined by the extent to which it contributes to the professional development of faculty, is consistent across campus, and supports the University's mission and Strategic Plan. Faculty initiatives in support of the Strategic Vision must be recognized and rewarded in the process of review for promotion, tenure, and selective increments. This review must recognize the four elements of the learner-centred agenda, as well as each of the other strategic directions. At present the University has no way of ensuring that appropriate values get enshrined in TP&SI criteria, other than through JPFC's issuing an appropriate edict that departmental documents be adjusted accordingly. The process is long and cumbersome, and there is still no assurance that every department will comply. If we are to do more than pay lip service to this need, a reform of the University's TP&SI system will be required. This includes not only setting common criteria but also providing an element of University-wide scrutiny.

#### RECOMMENDATION # 91:

*The University should make every effort to ensure that there is provision for a significant "merit" (or "pay for performance") component in the salary of all its employees.* ACTION: Vice-President Finance and Administration

The current compensation structures for faculty and staff mean that many employees who are performing in a superior manner receive minimal annual increase in salaries related to merit. SPC was particularly interested in the concept of a one-time bonus, as part of a strategy to address this issue. The SPC is also aware that training of managers and academic administrators is essential if a merit system is to be implemented effectively.

### 4. Terms of Appointment for Faculty

#### RECOMMENDATION # 92:

*In cases where faculty are not significantly engaged in scholarship related to teaching or research during the research and development semester, they should take on teaching (or service) responsibilities during that semester OR move to 9 or 10 month appointments.* ACTION: President, then JPFC

The overall productivity of faculty at the University in teaching, research, and administration/service has increased steadily over the last decade. Indeed, what might be termed "over-performance" — relative to customary norms — is becoming increasingly common. Nevertheless, from time to time some faculty may be judged to be "under-performing," particularly in terms of their activity during the Research and Development Semester. In cases where the faculty member's overall performance is deemed unsatisfactory with respect to both teaching and research, termination of employment is a possible consequence. However, in those cases where only the research component of faculty activity is deemed unsatisfactory, there are three options. The first step is for the Chair to consult with the faculty member to determine whether he or she wishes to make a more effective contribution in research, and if so, what assistance might be provided to the faculty member in that regard. The second option involves negotiations between the Chair and the faculty member that may result in the faculty member taking on additional teaching or service responsibilities. The third option is a

temporary or permanent shift to a nine or ten month appointment. This option is consistent with Faculty Policies and would be most appealing to a faculty member who wants time away from the University to pursue other professional or personal interests.

#### RECOMMENDATION # 93:

*The custom in many departments of assigning identical or very similar teaching loads to all faculty must give way to more carefully differentiated teaching assignments, which reflect the quantity and quality of work carried out in the areas of research and service, as well teaching and advising responsibilities related to graduate students.* ACTION: Chairs of departments and deans

As indicated in 1.4 of the Special Plan — and notwithstanding Article 19, which supports the right of faculty members to elect their own career paths — department chairs have a responsibility to assign variable teaching loads in order to achieve equitable workloads. The concept of variable teaching loads should not be linked too closely to the concept of paths. Election of the "Teaching Path" normally involves a heavy teaching load, but it is not the pre-condition of assigned teaching in excess of a departmental average; and it does not necessarily entail an unusually heavy instructional load — since the Teaching Path is intended to foster excellence in scholarship related to teaching. This form of scholarship will be increasingly important in the learner-centred university. Recommendation # 91 is consistent with the Human Resources Management Philosophy proposed earlier, which states that "the assignment of responsibilities should provide, on an on-going basis, the best possible match between the unique skills, abilities, and needs of the individual and the needs of the institution." It is also consistent with the need to achieve equity across the institution, with the Commission's interpretation of research intensiveness, and with the need to further the learner-centred agenda.

## K. ALUMNI

#### RECOMMENDATION # 94:

*The President of the University of Guelph Alumni Association (UGAA), the Provost, and the Vice-President University Affairs and Development should develop opportunities for alumni to collaborate more extensively and effectively in the work of the University. The President of UGAA should present an annual report to Senate on the nature and extent of involvement by alumni in activities related to our academic mission.*

The alumni of the University of Guelph and its founding colleges are an important part of our academic community. Our alumni, who are distributed around the globe and through all walks of life, provide a vital link to the world outside the University. Often, they are eager to share their wisdom and experience, and it would be foolish not to take advantage of their willingness to do so. It is clear to the Commission that alumni have a key role to play in implementing the enabling strategies described above. That role is reflected in the mission of the University of Guelph Alumni Association: to sustain and strengthen the University of Guelph.

Alumni could strengthen the University through enhanced involvement in a range of activities such as the following:

- networking with students to provide them with a better understanding of the workplace and job opportunities,
- bringing (as resource people) real world experience to discussions in courses, in curriculum design, and in a range of experiential learning activities,
- networking with administrators to provide information on industry/university and government/university interfaces and potential new opportunities,
- liaising with prospective students,
- fostering international connections and promoting the University worldwide,
- collaborating in the design of Open Learning programs and participating in these programs, and
- fund raising.

Alumni have historically been generous with both their time and their money. Many of them would like to be even more involved and even more helpful in strengthening the

University. They are available, they are sympathetic, they have the expertise and the will — and they represent a much under-utilized resource, which we neglect at our peril. If any of our alumni feel that they are not recognized as members of our community, that their potential input into programs and decision making is not welcomed, and that only financial assistance from them is of interest to the University, that perception must be changed. It is the University's fault if that perception exists, a fault that must be corrected by deliberate action. University administration, faculty, staff, and students share responsibility for increasing the involvement of alumni in the academic community. SPC believes very strongly that increased involvement of alumni will be essential if the University is to realize its very ambitious vision. A database that includes a description of the interests of individual alumni would facilitate the use of their diverse strengths. As ongoing students of the University, alumni should also be well-served by our choice of Open Learning as a strategic direction; but in fact all five of our strategic directions relate critically to contributions alumni are well positioned to make to the future of the University.

## L. PHYSICAL RESOURCES



#### RECOMMENDATION # 95:

*The Board of Undergraduate Studies, with assistance from Physical Resources and TSS, should undertake an assessment of classrooms and undergraduate laboratories on campus, and should develop a strategy for optimizing the use of the existing facilities, reporting to Senate by December 1995.*

A reassessment of the nature, quality, and allocation of space for teaching and research will be essential to the realization of our vision. Factors that must be taken into account include adaptation of facilities to the use of new technology; changes in the configuration of classrooms to accommodate small group interaction; the possibility that new large lecture halls, break-out rooms, or labs may be required; space that can be re-assigned and/or reconfigured as a consequence of declining faculty numbers (including office space and lab space); and needs arising from the restructuring of academic units. When decisions have been made on instructional strategies, a prioritized list of renovations and reconfigurations required should be developed.

Of particular concern to the SPC is the issue of undergraduate laboratory space, and its importance for experiential learning. Guelph is well below the system average for undergraduate lab space, and above the system average for research labs. The line between the two categories of use may not (and should not) be absolute in a research-intensive, learner-centred university, even with respect to undergraduate education. Undergraduate research projects are often carried out in research labs. We must assess the adequacy of all existing lab space and how effectively this space is used. This will require reassessing the intensity of use of all labs across campus, considering the best possible future use of research labs freed up as a consequence of downsizing, and, if necessary, changing the scheduling or duration of labs to meet student learning needs.

Many of the buildings on campus require renewal of structures and interior space because of age. Deferred maintenance items costing in excess of \$40M have already been identified. Expert opinion suggests that funding for the ongoing renewal of facilities should be at least 1.5% of asset costs. Using this guideline, the University should be spending about \$10M annually on renewal. The operating budget currently provides one-tenth of this amount. Notwithstanding the pressing need for maintenance, the sheer magnitude of the problem indicates that a dramatic curtailment of other programs would be required if maintenance problems were to be fully addressed. The University has actively pursued "one-time" funding from government grants and other forms of external support for maintenance and renewal. The Commission supports continued efforts to raise funds for this purpose. It is also acutely aware of the costs (including those related to morale and productivity) if funding cannot be obtained to address our most urgent problems and to prevent further deterioration of facilities.



## M. FINANCIAL RESOURCES



### 1. Flexibility in the Budget

#### RECOMMENDATION #96:

*Flexibility projected to appear in the 1998/99 budget must be protected. Commitment of these funds to permanent positions must be kept to a minimum.*

**ACTION:** President and Provost

Projected flexibility in the operating budget, arising after repayment of the SERP debt and first appearing in the 1998/99 budget, amounts to \$7.3M. The projection is based on the assumption that all other costs remain fixed. This is not a realistic assumption as undoubtedly there will be inflationary costs (e.g. for utilities and statutory benefits); in addition, the figure of \$7.3M does not take into account any adjustment to salaries. The projection also assumes no change in provincial grants. The degree to which such flexibility can be retained will be strongly influenced by decisions regarding positions that are currently frozen. Great care must be taken to ensure that the few positions filled support the Strategic Vision, since any positions filled will reduce the \$7.3M.

### 2. Enhancing Income

New sources of income must be sought if we are to realize our vision for the University. Such sources include a major fund-raising campaign, expanded revenue-generating activities (including those related to Open Learning), and the use of available income from the Heritage Fund. Priority in fund-raising must be given to the reconfiguration and renewal of our physical facilities, capturing new opportunities in computing and communications technology, developing new initiatives related to learner centredness, enhancing the infrastructure necessary to support research, and increasing the availability of scholarships, bursaries and other forms of financial support to students. Specific details on the need for reconfiguration of physical resources will arise from implementing previous recommendations related to classrooms and laboratories and the realignment of departments. Likewise, details related to computing and communications technology will arise from the review that has been recommended.

While it is essential to develop new sources of income, it is equally important to stabilize or enhance income from traditional sources. Our success in this regard may be strongly dependent on the degree to which our marketing, public relations, and outreach programs are capable of influencing legislators, their key advisors, and leaders in the various constituencies we serve. Coordinated and carefully crafted plans designed to promote and market the University must be developed and promoted by administrators, alumni, faculty, staff, and students.

#### RECOMMENDATION #97:

*A major fund-raising campaign must be initiated within the next two years, and ongoing fund-raising activity must be enhanced.*

**ACTION:** President and Vice-President University Affairs and Development

#### RECOMMENDATION #98:

*Deans, chairs, and managers must actively promote the development of revenue-generating activities that are compatible with the University's mission and that bring new money into the institution.*

#### RECOMMENDATION #99:

*The maximum income that is available for distribution from the Heritage Fund under the terms of the Heritage Declaration of Trust, and that remains uncommitted, should be used in support of Strategic Directions.*

**ACTION:** President

#### RECOMMENDATION #100:

*Linkages with our external constituencies must be strengthened. ACTION: All members of the University community, with leadership from Vice-President University Affairs and Development*

## N. GOVERNANCE



### RECOMMENDATION #101:

*The Bylaws and Membership Committee of Senate should explore a number of options for reducing the size of Senate and present a proposal to Senate by September 1995.*

This recommendation addresses the streamlining of Senate, to which a high priority must be given. In addition to supporting a reduction in the number of Senators (which far exceeds the norm in Canadian universities), the Commission favours streamlining of Senate's committee structure. The Commission's concern, however, goes beyond Senate to the whole issue of governance, and in particular the need to ensure that faculty time spent in committee work (like time spent in teaching or research) is well invested.

A collegial structure has been an essential element of governance at the University since it was created, and it is essential that the most positive features of this structure (and its processes) be retained. However, the workload associated with this will in future be borne by a smaller number of faculty and staff. This problem will be accentuated as we enter a period in which it is anticipated that faculty will be spending more time on curriculum review and development, and in which the University as a whole will be undergoing significant change. While we recognize that time spent in committees and in consultation is an essential element of a collegial structure, and is necessary to achieve a climate of trust and open communication — as well as good decisions — it is also true that in a climate of greater trust, openness, and accountability, it should be possible to spend less time in committees.

The automatic response to a problem should NOT be to "throw a committee at it." In assessing existing and proposed committees, we should also look very hard at the need for representation; while the participation of various constituencies will in some cases be vital, the automatic application of the representation principle can lead to swollen, ineffective committees and an excessive workload for the community as a whole. Part of the answer is making sure that people have ready access to information, and to issues under consideration, so that they can contribute ideas and flag matters of concern. Administrators should be allowed to administer, always within the context of full accountability. Committee recommendations should identify responsibility for implementation and should be rejected, delayed, modified, or implemented — and the community made aware of what has happened to them and why. Committee chairs should be responsible for follow-up. It is important for people who have worked hard on committees to know the consequences of their labour, and for the institution as a whole to gain a clearer sense of what is and what is not achievable.

## IV. IMPLICATIONS AND NEXT STEPS

The Strategic Vision and Enabling Strategies have implications for every part of the University. Some of the recommendations have major resource implications. Other recommendations call for processes that will allow the University progressively to reconfigure itself in response to both external and internal realities. Still other recommendations simply call for us to begin to do some things differently. These recommendations, while not having a large impact on resources or the need for reconfiguration, may have a profound effect on our future. Our response to the multitude of recommendations must be paced; priorities must be set. Our collective energies, as an institution, must be directed towards accomplishing change in areas of highest priority and at a rate that can be sustained by financial resources and the capabilities of our people. Finally, there is a need for accountability — a need to document the decisions that have been made on recommendations and the progress in implementing these decisions. This element of accountability is part of the

broader need for the University to be accountable to external constituencies.

## A. RESOURCE IMPLICATIONS



A number of the Commission's recommendations have major resource implications for both the Operating and Capital budgets of the University. Aside from recommendations #23 and 28, which call for the establishment of Learning and Research Enhancement Funds set at a fixed percentage of the operating budget, it is not possible to be specific about the budgetary impact of many of the recommendations. Some have the potential to reduce operating costs, for example, recommendations #2 and 49, which deal with enrolment and single entry point for new undergraduate students; in the case of recommendation #2, however, there is also an implication for reduced revenue. Others, including some of the recommendations dealing with the learner-centred university and external reviews of academic units, will increase operating costs. Still other recommendations, such as those dealing with Open Learning, have potential to generate revenue for individual units, if not for the University's operating budget. This said, there are a number of observations that can be made.

### 1. Operating Budget

Apart from changes in government grants or the provincial funding formula, the major impact on the operating budget over the next several years will be generated by SERP and the Five Year Plan. Two important implications follow for the recommendations of SPC. The first of these is the reduced teaching capacity implied by the reductions; the second is the budget flexibility that the institution may enjoy in 1998-99 when the debt incurred from the SERP program has been discharged.

The following calculations use the 1993/4 academic year as a base line, against which changes are measured. A reduction in the faculty complement of 15% will require a reduction in the number of course sections of at least 17% (400 course sections). This calculation assumes there is no change in the teaching loads of faculty. It reflects the additional funding (nearly 20%) for sessionals and contractually limited appointments — without which the number of course sections to be dropped or covered off by regular faculty would be much greater. The calculation also includes course sections that must be dropped as the reduced faculty complement assumes greater per capita responsibility for graduate students.

The reduction in course offerings will be achieved primarily through adoption of the single entry point and review of specializations and courses. (And it will be facilitated, if the University can hold to its plan, by a reduction in undergraduate enrolment.) Adoption of a single entry point (recommendation #49) should lead to a reduction of 100 course sections, leaving 300 course sections to be dropped by other means if we are to meet the minimum reduction required. The elimination of an additional 175 course sections (or 575 in all) would be required to achieve the suggested target of a 25% reduction in offerings (III. F. 4). Dropping some or all of these additional 175 course sections will be necessary if further growth in graduate enrolment and other initiatives related to Strategic Directions are to occur.

Creation of a Learning Enhancement Fund (recommendation #23) and a Research Enhancement Fund (recommendation #28), each resourced at 1.5% of the operating budget, would represent a cost of approximately \$4.5M. Committing funds to this purpose after the debt arising from the SERP has been paid should be a high priority of the University.

Given the process of consultation envisaged by SPC and the subsequent need to debate the various recommendations which may be brought before Senate and the Board of Governors, it seems realistic to assume that implementation of approved recommendations will not require funding before the 1996/97 budget year. Availability of funds released after the SERP repayment will not occur until the 1998/99 budget year, which leaves a two year gap. If the institution and its members are sufficiently committed to implementing the SPC recommendations, and if we wish to make a start, some money must be freed up in the interim period. Possible sources of funding include stringent

cost containment and ad hoc fund-raising, perhaps directed specifically to the initiation of the two Enhancement Funds. Another possibility is to levy a reduction on the budgets of all units (colleges and support units).

### 2. Capital Fund

Sources of revenue for the University's Capital Fund are threefold:

- Major projects funded by the Province
- A Capital Campaign
- The annual Maintenance and Renovations grant received from the Province.

The need for additional funding to support capital projects is considered in section III M (Financial Resources). The reconfiguration and renewal of physical resources will be essential if we are to become more learner-centred and if we are to remain research-intensive. Increased collaboration (both internally and externally) as well as the realignment of units may require adjustments in physical resources. Capital projects are usually very costly and could only be envisaged if funds were available from the Provincial Capital Fund or from a capital campaign.

The annual capital grant for renovation and maintenance fluctuates between \$1M and \$1.5M. These monies are allocated for maintenance of the fabric of buildings (e.g. new roofs and renovation of interior space). As pointed out in section L of this report, deferred maintenance items costing in excess of \$40M have already been identified. However, there is no reason that capital needs for implementation of the SPC recommendations which are less than \$1M in any one year should not be considered along with other possible projects and accorded an appropriate priority.

## B. THE PROCESS OF RECONFIGURATION



The Commission has not called for either an amputation or a major reconfiguration of programs or structures. In the face of declining resources, this action will be seen by some as complacency and a call to continue with the status quo. Such is not the case. Where reconfiguration is necessary, it must happen. The Commission is determined, however, that such reconfiguration occur in response to well defined needs or opportunities and that it follow processes that are both rational and transparent.

The key elements of the process of academic reconfiguration are the following:

- The funding for all vacant permanent positions will revert centrally (recommendation #75).
- The largest part of the operating budget is related to personnel costs; therefore, reconfiguration will occur primarily through the reallocation of funding for permanent positions.
- The reallocation of positions will occur through a resource-allocation process that takes into account instructional load, quality of scholarship, implementation of Strategic Directions, development of new opportunities, and increased efficiency (recommendation #72).
- Criteria will be developed to define the quality of scholarship (teaching, research, and service) arising from departmental and interdepartmental activities (recommendation #73). External reviews of departments, occurring every seven years, will also provide information on quality. This will be taken into account in the resource-allocation decisions.
- The instructional load that will be taken into account in the resource-allocation process will include both undergraduate and graduate teaching. All specializations and courses will be reviewed to identify those that should continue (recommendations #53 and #54). Specializations and courses failing to meet the criteria for the review will be terminated.
- The reviews of specializations and courses will help us to assess the need to reconfigure programs.
- Reconfiguration of departments or realignment of responsibilities will follow from discussions among specific departments (recommendation #57), deliberations within councils, the assessments of quality and instructional load of all departments, the need to in-



crease efficiency, and the desire to respond to Strategic Directions and new opportunities.

- Reconfiguration of colleges will be considered after reconfiguration of departments.

These elements should reconcile needs relating to teaching, research, and other aspects of the Strategic Vision with the reallocation of resources. While temporary and contractually limited appointments will continue to be very important, the most important element of this process — indeed the element that represents both the means of reconfiguration and the incentive to implement all of the other elements — is the filling or reallocation of permanent positions.

Reconfiguration of non-academic units will be affected in part by the reconfiguration of academic units. The need to retain flexibility, and to fill only the most critical of vacated positions, is acute for support units as well.

#### RECOMMENDATION # 102:

*Commitments to fill faculty positions on a permanent basis must not be made, except in the most extreme cases, until the resource allocation process has been developed, criteria for assessing the quality of departments have been defined, criteria for the continuation of specializations and courses have been accepted, and the relevant reviews of departments and/or interdepartmental units formally requesting positions have been completed.*

**ACTION:** Provost

The University cannot allow itself to be downsized at random, or by default. Vacancies that arise from SERP should not determine the future size of the units concerned. Only when proper assessments have been carried out throughout the institution, to determine where needs and opportunities are greatest, should we refill any vacated position.

### C. PRIORITIES

The Commission has not yet attempted to establish priorities or time lines for its recommendations. This must be done, and advice from the community during the consultation period will be useful in this regard. It is clear, however, that recommendations allowing us to reduce expenditures and cope with a reduced number of faculty and staff must have top priority and must be implemented as quickly as possible. Action to reduce course offerings (through introduction of a single entry point and the review of specializations and courses) is of immediate urgency. Development of a resource-allocation process (including associated criteria from assessing quality) must also proceed immediately. Recommendations that will require the expenditure of additional time or resources can only be implemented as these resources are freed from other commitments or new resources are obtained.

### D. ACCOUNTABILITY

The University must be accountable to external constituencies. The Board of Governors, which is institutionally accountable to the government of Ontario, is in the process of developing a list of performance indicators or management statistics to assist it in meeting a board's responsibilities as outlined in the Broadhurst Report:

- to monitor progress in implementing the institution's mission
- to assess admissions standards
- to monitor academic program reviews undertaken by the Senate, the Provost's Office, or outside bodies
- to monitor the application of policies related to academic appointments.

The University must also be accountable to itself — to faculty, staff, students, and alumni. The needs of the academic community differ from those of the external community. Critical elements of internal accountability are embodied in the human resources management philosophy and in the human resources management issues addressed by earlier recommendations.

An additional dimension of internal accountability relates to decisions arising from strategic planning, which in turn relates to the Board's responsibility for monitoring progress in the implementation of the institution's mission. Desirable outcomes from

our ongoing strategic-planning effort include the following:

- decisions that allow the University to respond in a timely and effective manner to new developments
- increasing confidence of the University community in its ability to manage change effectively
- increasing confidence of external constituencies in the quality and impact of programs at Guelph.

Communicating our progress to the internal and external communities will be essential to achieving the desired outcomes.

#### RECOMMENDATION # 103:

*Progress reports on implementing the Strategic Plan should be issued annually by the President (or designate), documenting decisions that have been made, the persons (or offices) responsible for implementing the decisions, the date or period of implementation, and measurements of progress using well-defined indicators. The progress reports should be widely distributed, on and off campus.*

#### RECOMMENDATION # 104:

*Indicators should be developed by SCUP to quantify progress on major decisions that arise from Strategic Planning. The primary purpose of developing and using these indicators will be to improve institutional quality and internal accountability. An additional purpose is to provide the Board of Governors with evidence of our success in meeting the objectives emerging from the Strategic Plan. A proposed set of indicators should be brought to Senate for approval within four months of decisions having been made on SPC's recommendations.*

It may be appropriate, in some cases, to compare measurements at Guelph to similar measurements at other universities. Information on indicators should also be made available to external constituencies. This would help the University to communicate its mission, and demonstrate its commitment to both accountability and continuous improvement. The indicators should be strongly contextual, as opposed to an absolute or comparative use of numbers as in the Maclean's survey. Indicators must not result in just another reporting requirement. They must be part of ongoing self-assessment by the University. The role of senior academic leadership, as well as a measure of consensus within the community on the indicators selected, will be critical. The following criteria have been suggested by COU's Committee on Accountability:

- relevance (does the indicator demonstrate what it is purported to?)
- reliability (is the indicator based on statistics that can be assembled consistently and accurately?)
- accessibility (can the indicator be measured on a regular, consistent basis and at reasonable cost?)
- clarity (is the indicator readily understandable?)

#### RECOMMENDATION # 105:

*A "change coordinator" should be designated for a limited period to monitor the change process occasioned by Strategic Planning.*

**ACTION:** President

The intent here is primarily to ensure that someone is keeping track of ongoing discussions, of our overall progress, and of communications regarding that progress. The annual progress reports to be issued by the President will not suffice in this regard. Careful monitoring by a designated person or office will be required for the immediate future, to maintain momentum and keep senior administrators and the community at large adequately informed.

### E. THE NEXT PHASE

This document is submitted to the community of the University of Guelph for debate. Input will also be sought from external constituencies. The purpose of these discussions is to identify errors and oversights, inconsistencies in the logic of the report, and fundamental disagreements with SPC's recommendations. The consultation period will extend over about four weeks. Thereafter, SPC will evaluate responses, incorporate in the text changes that are considered appropriate, and submit a final copy of the report to the President. Recommendations that are supported by the President will subsequently be submitted to the relevant governing bodies (Senate and the Board of Governors) for discussion and approval.

The next stage (Level III) of the current strategic-planning process will involve the



development of plans at a unit level that are compatible with the Strategic Plan. Deans, Chairs, Directors, and Managers will be accountable for developing unit plans and reporting through appropriate administrative structures to the Provost.

Strategic planning has been understood by the Commission from its inception to be an ongoing exercise. While strategic planning must continue through Level III and beyond, the Commission itself will be dissolved following the submission of its final report. Future strategic planners should build on the successes of the current exercise — and learn from our mistakes.

#### RECOMMENDATION # 106:

*A comprehensive analysis should be carried out in 1998/99 to assess the impact of the current strategic-planning exercise.*

**ACTION:** Provost, in conjunction with the Senate Committee on University Planning.

### APPENDIX I. CHARGE FROM THE PRESIDENT

President Mordechai Rozanski has issued the following charge to the Strategic-Planning Commission:

From its inception, the University of Guelph has taken an active and continuing interest in identifying the goals it should pursue as an institution.

The first University review of its aims and objectives resulted in the aims and objectives document of 1972, with the next major enunciation of a revised set of aims and objectives being contained in the 1985 document *Toward 2000*. That document, which has served as a touchstone for all subsequent planning efforts, called for a review of the aims of the University no later than 1995.

Today, we find the University challenged by a number of external forces, not the least of which is a dramatic reduction in the level of government funding that comes after more than a decade of slowly reducing per-capita support for universities.

If we are not to revert to crisis management, we will require a positive, deliberate and creative planning approach to the challenge of defining and reordering our institutional priorities over the next decade. I therefore charge the commission with developing recommendations regarding the mission and future direction of the University over the next decade and with developing an ongoing process for the review and implementation of these recommendations — all in the service of ensuring our academic quality and institutional vitality into the 21st century.

While the commission will build on previous planning efforts, particularly the important contribution of the Academic Restructuring Committee, I ask that you consider the questions and contexts raised in my letter of Oct. 6, 1993, and, among other issues, focus specifically on:

- reviewing the mission and future direction of the University and how effectively we have implemented the learning objectives;
- identifying our existing and future student audience/market;
- evaluating our program and specialization mix, specific strengths and competencies and comparing them with those of our competitors;

- identifying those programs and specializations that provide the University's current comparative advantage and those new areas where there is a high potential for growth;
- determining the scope, size and structure of educational and research programs, services and operations offered by the University, consistent with high academic quality and resource realities;
- determining the organizational structure, staffing and physical configuration best suited to providing the programs and services deemed necessary;
- identifying opportunities for co-operation with neighboring postsecondary institutions and the public and private sectors in the provision of programs and services;
- determining the appropriate relationship between the teaching and research programs; and
- determining the appropriate level of accountability to our publics in terms of the outcomes of teaching and research programs as well as our expenditure of funds.

The challenge we face cannot be met by tinkering and should not be met by across-the-board budget cuts, but must involve an active and comprehensive planning effort that considers the external environment, builds on strengths, reaffirms our commitment to academic quality and respects the values and culture of the University of Guelph.

In the near term, when the social contract is scheduled to end in 1996, we will be faced with reduced government funding and additional obligations related to equity adjustments and compensation. The plan will therefore have to recognize the need to bring expenditures into line with funding through a variety of measures, including the generating of new revenue sources and, where appropriate, restructuring of programs and their method of delivery.

While it is expected that the process adopted by the commission will involve wide consultation engaging all appropriate parties, it should be emphasized that the process must culminate in specific recommendations and, ultimately, decisions about the institution's future development, and must be brought to a close within a reasonable timeframe. To this end, I would ask that the commission present an interim report by June 3, 1994, and a final report Nov. 30, 1994.

#### Strategic Planning Commission Members:

Andre Auger  
John Baria (from July '94)  
Derek Bewley (from July '94)  
Gerli Bos  
Diane Boyd  
Tammy Bray (until July '94)  
Nigel Bunce  
Iain Campbell (until Apr. '94)  
Donald Cockburn (from Apr. '94)  
Doug Doods  
Hugh Earl (from Aug. '94)

Brian Eam (until June '94)  
Fred Evers (from July '94)  
Made Férère  
Pat Gentry  
Robin Hicks (until Aug. '94)  
Michael Hoy  
Derek Jamieson  
David Joseph  
Boy Kay (Chair)  
Michael Keeler  
John Leatherland  
Theresa Lim  
Jack MacDonald (from Apr. '94)  
Colin Marsh  
Wayne Marsh

Murray McEwen  
Bryan McKersie  
John Miles  
Chris Parent (until Apr. '94)  
George Penfold (from July '94)  
John Poff  
Connie Roake (Associate Chair)  
Garry Round  
Mordechai Rozanski  
Trish Walke  
Yolanda Wiersma (from Nov. '94)  
Donna Woolcott

The Commission received invaluable support from Barbara Abercrombie, Pat House and Brian Pettigrow.



## RECOMMENDATIONS

### II. THE STRATEGIC VISION

1. Recommendation #1 is the Mission Statement. See page 1.
2. In the absence of significant change in the funding formula, undergraduate enrolment should decrease to approximately 10,000 FTEs by Fall 1998 as currently planned, and graduate enrolment should be maintained or enhanced wherever possible.
3. To ensure that the quality of entering undergraduates and graduate students does not fall below currently high levels, the University should maintain its support for liaison activities, attend even more carefully to public relations generally, and assign a high priority in a major fund-raising campaign to a strengthening of our scholarship programs.
4. The University should continue to emphasize its residential character and its focus on recent high school graduates from across the province, while at the same time promoting its ability to serve the needs of students wishing to access our programs from a distance.
5. All sectors of the University must critically assess their programs, services, facilities, and general climate to ensure that students of all cultural backgrounds are supported and feel supported in their education and development.
6. To enhance accessibility for economically disadvantaged students, the University must assign a high priority in a major fund-raising campaign to a strengthening of our bursary program and the provision of additional forms of financial support.
7. The representation of people of colour and aboriginal people in our student body should be increased, and the appropriate on-campus support should be provided.
8. The University of Guelph should adopt Learner-Centredness, Research-Intensiveness, Collaboration, Internationalism, and Open Learning as its five Strategic Directions.
9. Program committees should encourage methods of instruction that foster self-directed learning. These methods could include mentoring, peer-group learning, and the involvement of undergraduates in research and scholarly activities.

### III. ENABLING STRATEGIES

10. Program committees should ensure that the curriculum requires students to participate in small group experiences, such as seminars, laboratory sessions, and projects in which communication and interpersonal skills are purposefully developed, and that the curriculum affords all students the opportunity to develop group skills.
11. Three versions of a mandatory first-year "inquiry course" should be developed. Each version will emphasize one cluster of knowledge — humanities, social science, or science. These courses will be designed to help students become self-directed learners and will promote an understanding of research and the process of open inquiry as conducted within the broadly defined areas of study.
12. Certain courses within each program should be "designated writing courses"; such courses should have a significant writing requirement and provide students with careful feedback on writing skills within the context of their various disciplines. The successful completion of a specified number of designated writing courses should be a university requirement for graduation.
13. With an increase in the use of computer-assisted instruction, it will be necessary for students to have increased access to computers. In the short term, we should increase computer work-stations and make it easier for students to acquire their own computers; in the long term, we should require students to have their own computers.
14. The University should offer a variety of experiential education options including single or two-term work-study options.
15. Every effort should be made to involve students in peer paraprofessional, volunteer, and part-time positions within the University both to foster their involvement in the University and to provide cost-effective experiential educational opportunities.

16. The University should establish an Experiential Education Advisory Group, involving past and present employees — including alumni wherever possible — to advise the University on the placement of students in a variety of experiential education opportunities.
17. Our spring offerings (including distance courses) should be coordinated with those of other institutions, so that co-op students can make more effective use of the summer session as an academic term.
18. Students should be encouraged to develop throughout their undergraduate careers a portfolio containing a selection of their work and outlining academic and extracurricular experience.
19. The course timetable for all students should include blocks of time to allow for independent study. Curricular changes which reduce lecture hours should encourage instructors to spend time with students in other forms of learning.
20. Departments and program committees must assign a high priority to increasing the efficiency and effectiveness of the evaluation of student performance. Examination schedules should allow faculty sufficient time to mark essay questions and should accommodate examinations of variable length.
21. All undergraduate and all graduate courses should be evaluated by students. A common set of questions should be introduced university-wide, to form a part of each department's questionnaires.
22. Program committees and Tenure, Promotion, and Selective Increment Committees must foster and reward the four elements of the learner-centred approach: self-directed learning, the research-teaching link, skill development, and experiential learning.
23. A Learning Enhancement Fund should be established at 1.5% of the University's operating budget and protected.
24. The University recommits itself to provide the necessary elements for innovative and creative research, namely, time to do research, library access in support of research, high quality space in which to engage in research, and infrastructure (including equipment and staff) for research.
25. The University will hire new faculty with potential to excel in both research and teaching, and will nurture their early careers so that they have the opportunity to reach their potential. The recruitment process must recognize the potential of new faculty to develop a collaborative or an individual research program, or both.
26. The University commits itself to a research environment in which:
  - The researcher's choice of research direction is supported; and opportunities that are of strategic importance to the University's ongoing development as a research-intensive institution are identified and developed in a proactive manner.
  - High quality and true innovation in research rather than mere quantity of output are recognized. This is taken into account when a faculty member's contribution to the University is evaluated, and in particular during TP&SI considerations.
  - Graduate student supervision and the commitments required to maintain a competitive research program are appropriately recognized in workload allocations and considerations of advancement and reward.
  - Interdisciplinary research and specialized disciplinary research are equally valued by the community. Time and resources are made available for writing major interdisciplinary research proposals, and start-up funding is provided to initiate these activities.
27. In the case of faculty who have not pursued or are no longer pursuing a productive research program — perhaps because external funding has become unavailable — and who have the ability and desire to make a research contribution, Chairs, Deans, and the Research Board should support changes in research direction and participation in collaborative projects.
28. A Research Enhancement Fund should be established under the joint direction of the Provost and Vice-President Research, to support new faculty, research infrastructure, and promising initiatives. The Fund should be established at 1.5% of the University's operating budget and protected.
29. Tenure, Promotion and Selective Increment Committees should recognize and reward collaborative efforts in teaching and research, and demonstrated collegiality, collaboration, and co-operation.
30. The University of Guelph should establish an award (or a similar form of tangible

recognition) to recognize the collaborative efforts made by students, staff, faculty, and/or alumni to the improvement of the academic, administrative and/or support activities of this University.

31. The revised course timetable, the duration of semesters, and the examination schedule should be compatible with increased collaboration with Waterloo, Wilfrid Laurier, and McMaster.
32. The transfer of course credits among Guelph, Waterloo, Wilfrid Laurier, and McMaster should be made as efficient and simple as possible. Students who take specialized courses at our neighbouring institutions that are not offered here should receive full academic credit for those courses.
33. Undergraduate programs with low enrolment or low financial resources should be considered as high priority candidates for collaborative offerings with Waterloo, Wilfrid Laurier, and/or McMaster.
34. Collaboration with our neighbouring universities, Waterloo, Laurier, and McMaster, in the area of academic and student support, such as the Library and registrarial functions, should be given high priority.
35. The transfer of course credits from colleges to the University of Guelph should be made as efficient and simple as possible.
36. Enhanced interaction with elementary and secondary schools in the areas of curriculum, the use of technology, professional development for teachers, and accessibility should be assigned a high priority.
37. The University of Guelph should continue to play a leadership role in the Wellington County Consortium, and involve more sectors of the institution in collaborative ventures with the consortium.
38. Alumni who are active leaders in the business community should be invited to advise the University on the revision of policies and procedures that may be limiting our relations with industry.
39. The Board of Undergraduate Studies will strive to ensure that each undergraduate degree program incorporates an explicit international component and report to Senate by September 1997.
40. The University should strengthen support for international students on campus (e.g., LINK) and promote understanding of the cultures of other countries.
41. The Senate International Committee should set targets for study abroad and exchange, analyze resource requirements (including bursaries for needy students), and report to Senate by September 1996.
42. International activities should continue to include a focus on Western Europe, the definition of which will naturally evolve as the community of European nations changes.
43. The Caribbean and Latin America should be given greater prominence in the spectrum of international activities in which we are engaged. Priority should be given to student and faculty exchange, study abroad, supporting courses (e.g., courses related to the natural resources, economics, cultures, and socio-economic and political features of these areas), opportunities to develop competencies in speaking the relevant languages, collaborative research, and the development of institutional linkages.
44. The Associate Vice-President Academic should establish a working group to evaluate ways of meeting our need to strengthen language instruction, and report to Senate by May 1996.
45. The SPC endorses the recent creation of the Senate Committee on Open Learning, to work in concert with the Office of Open Learning. Critical responsibilities will include the implementation and on-going assessment of profit-sharing and incentive mechanisms, ensuring the quality of non-credit courses, and identifying the most significant opportunities for development.
46. Academic units (including departmental curriculum committees and councils) have primary responsibility for the quality of all credit courses delivered by distance education whether for students registered in the Open Learning Program or for students registered in degree/diploma programs. To this end, all distance education course materials should be periodically reviewed and all must be evaluated by students.
47. The development and delivery of credit distance courses serving undergraduate programs should be viewed as part of a department's teaching function and constructed as a normal part of workload. Activities in all areas of Open Learning, including the development and delivery of distance credit courses to undergraduates, should be considered in assessing the quality of departments, and should be reflected in the assessments of individual faculty by Tenure, Promotion, and Selective Increment Committees.
48. 80% of the profits from delivery of credit or non-credit courses in support of Open Learning should remain in the department or college generating the revenue, and should be regarded as additional income for the units concerned; 20% of profits should flow into the Learning Enhancement Fund.
49. The University should move to full-entry only for new undergraduate degree students, as soon as it is operationally feasible to do so.
50. The spring semester, as it is currently operated, is not justifiable from a resource allocation perspective and must be downsized immediately. The University should continue to operate a summer session, but course sections should be reduced, the mix of course offerings should change, and distance courses should play a more important role in order to serve a larger and more diverse group of learners. Courses in this summer session should not be offered in 12 week formats. The details and process of downsizing must be left to programs, departments, and colleges.
51. The University should adopt a credit system in which courses are weighted as 0.0, 0.5, 1.0, 1.5, 2.0 credits.
52. The University should adopt a system for assessing prior learning and skill development; a student who can demonstrate possession of the knowledge or skills to be developed in a course would receive credit for that course towards a degree.
53. The Board of Undergraduate Studies must begin an on-going review of all specializations. The review should be based on a common set of criteria which include:
  - (1) The compatibility of the program with the University's stated mission.
  - (2) The extent to which the specialization duplicates or overlaps with other specializations on campus, and the societal need for the specialization, including the availability of comparable specializations at other Ontario institutions.
  - (3) The availability of necessary resources (including personnel, library and computer resources, studio and laboratory space) to offer the program at a level of quality the community (i.e. Senate) deems acceptable academically.
  - (4) The actual or anticipated enrolment in the specialization.
 The Board of Undergraduate Studies would be expected to fine-tune these criteria and subsequently apply and enforce them in assessing proposed and on-going specializations and report annually to Senate. New specializations should be approved by Senate only if they satisfy all the amended criteria.
54. A review of courses must be carried out in conjunction with the reviews of specializations. The Board of Undergraduate Studies must take the following criteria into consideration in the review of course offerings and the assessment of whether undergraduate courses are introduced, continued, or discontinued.
  - (1) Whether the course is a required component of an approved specialization.
  - (2) The availability of sufficient resources to offer the course.
  - (3) The extent to which the course duplicates or overlaps with other courses on campus.
  - (4) The frequency of offerings and the feasibility of offering the course either in alternate years or in the distance mode.
  - (5) The opportunity for collaboration with neighbouring institutions.
  - (6) The infrastructure, such as library and computer resources, studio and laboratory space needed to operate the course at a level of quality the community feels is acceptable academically.
  - (7) The actual or anticipated enrolment in the course.
55. Course offerings appearing in the calendar should be offered no less frequently than on a two year cycle. Semester offerings should be designated. Any course not offered during this cycle should be removed from the calendar unless it is a special topics course. Irregularly offered courses should be confined to a series of course numbers reserved for "special topics" under each specialization.
56. There should be no realignment of the college structure at present, but the distribution of departments among colleges and the number of colleges should be reconsidered in five years.
57. Discussions should be initiated (or continue where already underway) in the following departments to examine the advantages and disadvantages of realignments or closer association through participation in councils.
  - Veterinary Microbiology and Immunology/Pathology



- Nutritional Sciences/Human Biology
  - University School of Rural Planning and Development/Landscape Architecture/Rural Extension Studies
  - Economics/Agricultural Economics and Business
  - Environmental Biology/Horticultural Science
  - Land Resource Science/Geography
- Particular attention should be paid to implications for change in administration, hiring of staff and faculty, sharing of space and equipment, and coordination of course and program offerings (graduate and undergraduate). Discussions should be facilitated by the Dean where the departments are in the same college and by the Provost where the departments are in different colleges. The facilitator should define a schedule for completing each discussion, and the Provost should report the results of all discussions on realignment/closer association of departments to Senate no later than January 1996.
58. Present and proposed councils should be given responsibility to coordinate interdepartmental activities and, where appropriate, to coordinate faculty and staff hiring. For those parts of departmental undergraduate activity that fall within the Council's purview, the following responsibilities currently vested in departments should be coordinated by the council: curriculum development, student advising, administration of the relevant majors, minors, and specializations, and teaching assignments. Each council should, at minimum, include the Chairs and/or Deans of member departments and colleges, and might be chaired either by these individuals in rotation or by a specially appointed council Coordinator. One Dean should be appointed (designated) to represent the council on VPAC. One of the responsibilities of councils is to determine whether, or at what rate, cooperation between units should evolve towards merger of departments. A senior academic should be appointed as "facilitator" to monitor progress towards the Council's specific goals. Councils should be reviewed every five years to determine whether they are meeting their mandate, and whether there is a continued need for their existence.
59. The Animal Science Council should coordinate undergraduate courses and programs, graduate programs, and Open Learning offerings with a view to maximizing efficiency of program delivery and elimination of duplication, and should also be given to integrating the basic and applied aspects of research. Following reorganization of the program, this Council should recommend departmental realignments in the broad area of animal biology. Coordination of the graduate program in Aquaculture should also reside with this Council.
60. The Business Council should extend its efforts in coordinating undergraduate and graduate education on campus to include involvement with neighbouring universities. Attention should be given to a growing need to include business-related experiences for students in other programs and growing opportunities related to Open Learning. Consolidation or restructuring of the relevant departments at Guelph must also be considered.
61. A Cultural Studies Council should be formalized to coordinate interdisciplinary teaching and research in this emerging area. It is anticipated that, over time, the responsibility for the University's programs in Women's Studies, Canadian Studies, Scottish Studies, and European Studies would fall to this Council.
62. Discussions among ecologists and evolutionary biologists should determine whether the formation of a council is viable.
63. The existing Environmental Science Council, together with the Deans of the relevant colleges, must reconsider the membership of the Council with a view to enhancing collaboration among all departments with an interest in the environment. In recommending changes, priority must be given to including these Deans as members.
64. After paying much attention to the area of research and the interface with industry, the Food Council should now pay more attention to undergraduate matters, where the situation is characterised by relatively rich course offerings and relatively low enrolments in several of the food-related undergraduate programs, an exception being Applied Human Nutrition.
65. A Microbiology Council should be formalized to coordinate the University's activities in Microbiology. This group should have the responsibility for determining whether any consolidation of microbiologists into a smaller number of departments should occur.
66. A Molecular Genetics Council should be created and have responsibility for coordinating aspects of the relevant teaching programs. The Council should co-ordinate hiring and the acquisition, housing, and maintenance of research equipment infrastructure that is needed to support research and teaching in this area.
67. The Plant Biology Council should continue to coordinate teaching, research, and service in plant science. The mandate should be expanded to include the realignment of relevant departments on campus, or the development of other means of enhancing collaboration in administration, research, and graduate education. The Council should extend its efforts to include collaboration with neighbouring universities. The expanded Council might be better able to seek external funding for shared capital facilities and major infrastructure.
68. The Council on Rural Communities should evaluate the merits of introducing an undergraduate major in rural development and should promote the growth of graduate education in this area.
69. A Toxicology Council should be formally established, and the Council should give priority to developing a graduate program (to be approved by OCGS within 5 years) and to enhancing coordination with CNTC.
70. Faculty associated with existing councils in Bio-Medical Sciences and Health Sciences should re-examine the role of these Councils in light of other structural changes and either strengthen or disband the Councils. The Provost should facilitate these discussions.
71. Program committees should be restructured. Members of program committees should be appointed by the Dean(s) to guide the program. Committees must be of a manageable size; thus, not all departments, councils, or interdisciplinary programs will be represented.
72. The allocation of resources to academic units should be based on the following elements:
- (i) rational and transparent measures of instructional effort including:
    - undergraduate and graduate instruction, both disciplinary and interdisciplinary;
    - activities supporting undergraduate education such as advising, coordinating semesters abroad, supervising experiential education programs, and curriculum development;
    - participation in undergraduate and graduate courses taught outside the academic unit;
    - activities supporting graduate education such as participation on advisory, admissions, and examination committees;
  - (ii) quality of teaching, research, and service.
- In addition, the allocation of resources should include short-term or one-time funding for programs that will allow or encourage:
- (iii) implementation of the University's Strategic Directions;
  - (iv) development of new opportunities;
  - (v) increased efficiency in the use of resources (increased efficiency should not be a *prima facie* reason for the reduction of resources to a unit).
- The allocation of resources should make explicit the instructional effort that has been rewarded.
73. The Provost, in conjunction with Academic Council, should develop indicators to assess the quality of scholarship (teaching, research, and service) of departments. It is expected that some criteria would be common to all departments, whereas others would be specific to particular academic cultures; it is also expected that some indicators would involve national and international comparisons. Departments should undergo external review every seven years, in conjunction with reviews of graduate programs wherever possible.
74. Annual reviews and comprehensive reviews (every seven years) should become part of the resource allocation process for all non-academic units, and the Vice-President, Academic, and the Vice-President, Finance and Administration, should develop the review process.
75. Funding from all vacated faculty positions (except those resulting from negative tenure decisions) and staff positions should revert centrally (President and Provost) to facilitate reallocation of resources and enhance budget flexibility.
76. Greater integration between academic areas and student support service areas should be achieved. In particular, the roles and potential for cooperation between Teaching Support Services and the Counselling and Student Resource Centre should be examined.
77. The Associate Vice-President Academic should develop a plan for counselling and advising that reflects the following features:
- Program counsellors should report to the Associate VP Academic, as well as relevant deans.
  - Greater equity must be achieved in the workloads of program counsellors.
  - A central site for all academic advising at the program level should be created.
  - Career counselling should continue centrally, but must also make its way much more effectively into departmental and program counselling.
  - First-rate counselling documents must be produced at the department and program levels.
  - More regular and effective communication amongst program counsellors and between program counsellors and departmental advisors must occur, as well as between these individuals and curriculum and program committees.
  - The importance of the advising function must be reflected in the training, selection, and evaluation through Tenure, Promotion, and Selective Increment Committees of departmental academic advisors.
78. The Provost and Chief Librarian should move as quickly as possible to document delivery and increased collaboration with neighbouring universities. The need for an appropriate balance between monographs and journals (including electronic forms) must be examined in each discipline in light of needs related to self-directed learning and research-intensiveness. Professional librarians must play a greater role in the development of these collections. The Library budget as a whole should be re-examined in the light of opportunities for collaboration and document delivery, with a view to improving service.
79. The Provost should (a) undertake a comprehensive assessment of the needs and responsibilities of the University with respect to computing and communications hardware, supporting software, resources (human and financial), and decision-making structures and (b) develop a comprehensive plan that will be responsive to evolving needs and technological opportunities over the next decade.
80. The University should develop a comprehensive human resources management philosophy.
81. Provision should be made, in both policy and practice, for including one or more staff members as full members of the selection committees for academic administrators and non-academic administrators.
82. The skills that are most crucial to the implementation of the Strategic Plan must be defined, and appropriate programs must be available to staff at all levels to support the development of those skills.
83. Professional development opportunities that will assist faculty to explore the implications of a learner-centred curriculum and to identify opportunities that may enhance the current learning environment must be made available on an ongoing basis.
84. Ensuring that GTAs have the skills necessary to support a learner-centred curriculum should be a high priority for the University.
85. The University should ensure that formal professional development programs, to include specific emphasis on budget and personnel management, are available for new managers and academic administrators.
86. The University should introduce for all its managers and academic administrators a performance review program that measures progress toward specific, agreed upon goals.
87. Performance review programs for staff should take into account contributions in support of the Strategic Vision and should include appropriate measures of satisfaction on the part of individuals and units served.
88. The professional development and renewal of individuals within their units must be a priority for all supervisors including deans, directors, department chairs, faculty and librarians in supervisory positions, and non-academic managers, with accountability through the performance review process.
89. A common set of University-wide standards for tenure, promotion, and selective increment must be developed.
90. Ways must be found to make the tenure, promotion, and selective increment process more effective.
91. The University should make every effort to ensure that there is provision for a significant "merit" (or "pay for performance") component in the salary of all its employees.
92. In cases where faculty are not significantly engaged in scholarship related to teaching or research during the research and development semester, they should take on teaching (or service) responsibilities during that semester OR move to 9 or 10 month appointments.
93. The custom in many departments of assigning identical or very similar teaching loads to all faculty must give way to more carefully differentiated teaching assignments, which reflect the quantity and quality of work carried out in the areas of research and service, as well teaching and advising responsibilities related to graduate students.
94. The President of the University of Guelph Alumni Association (UGAA), the Provost, and the Vice-President University Affairs and Development should develop opportunities for alumni to collaborate more extensively and effectively in the work of the University. The President of UGAA should present an annual report to Senate on the nature and extent of involvement by alumni in activities related to our academic mission.
95. The Board of Undergraduate Studies, with assistance from Physical Resources and TSS, should undertake an assessment of classrooms and undergraduate laboratories on campus, and should develop a strategy for optimizing the use of the existing facilities, reporting to Senate by December 1995.
96. Flexibility projected to appear in the 1998/99 budget must be protected. Commitment of these funds to permanent positions must be kept to a minimum.
97. A major fund-raising campaign must be initiated within the next two years, and ongoing fund-raising activity must be enhanced.
98. Deans, chairs, and managers must actively promote the development of revenue-generating activities that are compatible with the University's mission and that bring new money into the institution.
99. The maximum income that is available for distribution from the Heritage Fund under the terms of the Heritage Declaration of Trust, and that remains uncommitted, should be used in support of Strategic Directions.
100. Linkages with our external constituencies must be strengthened.
101. The Bylaws and Membership Committee of Senate should explore a number of options for reducing the size of Senate and present a proposal to Senate by September 1995.

## IV. IMPLICATIONS AND NEXT STEPS

102. Commitments to fill faculty positions on a permanent basis must not be made, except in the most extreme cases, until the resource allocation process has been developed, criteria for assessing the quality of departments have been defined, criteria for the continuation of specializations and courses have been accepted, and the relevant reviews of departments and/or interdepartmental units formally requesting positions have been completed.
103. Progress reports on implementing the Strategic Plan should be issued annually by the President (or designate), documenting decisions that have been made, the persons (or offices) responsible for implementing the decisions, the date or period of implementation, and measurements of progress using well-defined indicators. The progress reports should be widely distributed, on and off campus.
104. Indicators should be developed by SCUP to quantify progress on major decisions that arise from Strategic Planning. The primary purpose of developing and using these indicators will be to improve institutional quality and internal accountability. An additional purpose is to provide the Board of Governors with evidence of our success in meeting the objectives emerging from the Strategic Plan. A proposed set of indicators should be brought to Senate for approval within four months of decisions having been made on SPC's recommendations.
105. A "change coordinator" should be designated for a limited period to monitor the change process occasioned by Strategic Planning.
106. A comprehensive analysis should be carried out in 1998/99 to assess the impact of the current strategic planning exercise.





Zoology professor Paul Hebert took this photo on Rowley Island in the Arctic during the summertime. The raised sandy areas were left by the retreat of the polar ice caps.

## Arctic yields secrets to be uncovered

by Margaret Boyd  
University Communications

The vast stretches of Canada's Arctic pose a giant puzzle for scientists trying to probe its mysteries. As zoology professor Paul Hebert says: "Many strange things happen under the northern lights."

For 18 years, Hebert has been making annual scientific pilgrimages to the Arctic to study freshwater organisms. As an aquatic ecologist and former director of the Great Lakes Institute at the University of Windsor, he is interested in water resources and lake ecosystems.

A major goal of his research is to reconstruct the dispersal routes that fish used to recolonize the Arctic. Because the area was covered by an ice sheet 8,000 to 10,000 years ago, fish species are not indigenous. A logical question, then, is: "How did these organisms get there?"

Only recently, molecular genetics has been used to help answer such questions. Working with graduate student Chris Wilson, Hebert turned his attention to the two major freshwater fish species in Northern Canada — the arctic char and lake trout. Conventional wisdom held that these species had moved north from refuges in the southern Mississippi Basin, but molecular analyses proved this theory wrong. Instead, the fish actually originated in Alaska, which raises another question: "How did they cross the mountains?"

"They didn't climb the Brooks Range," says Hebert. "They swam the Beaufort Sea instead."

Yet another puzzle piece emerges. How would a freshwater fish intolerant of saltwater survive a lengthy ocean voyage? Hebert believes the answer lies in the fact that when seawater freezes in the polar winter, it excludes salt ions, resulting in freshwater ice on the ocean. "With the arrival of spring, this ice melts, producing a freshwater layer on the ocean that provides a dispersal corridor for fish," he says.

"From a physical standpoint, the Arctic represents Ontario as it looked 12,000 years ago," says Hebert. "A visit to the Arctic is, in one sense, like being in a time machine."

Modern arctic landscapes are remarkably dynamic because of the phenomenon of isostatic rebound. The massive weight of the ice sheets depressed the land surface by several hundred metres, but since the ice-melt, the land surface has rebounded at a rate of nearly one metre per century.

As Hebert points out, large areas of arctic landscape and many freshwater lakes were very recently either segments of sea bottom or fiords. For instance, the entire island of Igloodik, which now supports a community of 1,000 Inuit, was below sea level until 3,000 years ago.

For an aquatic biologist, one of the most striking signals of this emergence lies in the populations of cod trapped in a saline layer at the bottom of some arctic lakes.

The Arctic is yielding new species, which is surprising because most arctic habitat is comparatively new, says Hebert. But it's not so surprising when one real-

izes that throughout the Pleistocene Age, parts of the Arctic afforded places where plants and animals could live.

The ocean influences freshwater fish in other ways. One influence is the relationship between fish size and type of lake. Fish in landlocked lakes are dwarves. Last summer, Richard Russell and Kim Mandzy, students working with Hebert, found eight-year-old arctic char that were only seven centimetres long. This dwarfing is the result of low temperatures and few resources.

In contrast, it's not unusual to find 10-kilogram fish in lakes connected to the ocean, says Hebert. These fish spend a portion of each year feeding on rich marine invertebrate communities. He's also found that hybrids — between arctic char and lake trout — make up about 10 per cent of the fish population in many arctic lakes. □

## Lifestyle of vegetarians can be even healthier

Kerith Waddington  
Office of Research

Vegetarians' low-fat, high-fibre diet puts them at lower risk for heart disease than omnivores. But a U of G nutritional scientist says vegetarians could make a good thing even better by increasing consumption of an important nutrient they're missing.

Prof. Bruce Holub says that docosahexaenoic acid (DHA) — an Omega-3 fatty acid important for visual acuity and cognitive function, as well as for reducing blood-platelet clumping related to heart disease — is not readily available to vegetarians. He says an indirect and inadequate source can be obtained through alpha-linolenic acid in plant foods such as flaxseed and unhydrogenated vegetable oils such as canola and soybean, but DHA is mainly found in seafood and freshwater fish.

"Vegetarian low-fat diets are good for cardiovascular health," says Holub. "But vegetarians may not be reaping the natural additional protection offered by DHA consumption."

Recent research by nutritional sciences graduate student Mandy McCorquodale showed that vegetarians have 40-per-cent lower DHA levels in their blood. Holub hopes to change this. He, Prof. Steve Leeson, Animal and Poultry Science, and former U of G professor Les Ferrier have developed Omega-3 eggs enriched in DHA. Results showed that hens fed flaxseed produce modified eggs that bolstered the DHA levels in circulating blood platelets of humans.

"A trip to the doctor isn't where

well-being begins," says Holub. "As farmers realize that what they feed to their hens or other animals can have an impact on the health of consumers, doors will open for preventive health care that begins on the farm."

Holub says the lack of dietary DHA could affect breast-feeding vegetarian mothers. Studies elsewhere confirm lower DHA levels in the breast milk of vegetarian mothers than that of omnivorous mothers. Because DHA is needed for visual acuity and brain development in infancy, breast-milk levels may be important.

Those discrepancies underline the need for strategies that give everyone access to optimal levels of dietary DHA, he says.

"With the numerous health benefits of DHA coming to light, access to adequate sources is important for vegetarians as well as omnivores. As technology continues to improve the options available, preventive health care will need to appreciate the diets and nutritional needs for vegetarians and non-vegetarians alike."

Research associate Julie Conquer is staging the first human trial in which vegetarians will be fed a novel vegetable-based DHA source developed from a special plant algae. Numerous physiological factors will be studied, as will the relationship between vegetarians' consumption of DHA and risk factors for heart disease.

Holub's research is sponsored by the Heart and Stroke Foundation of Ontario and the Ontario Ministry of Agriculture, Food and Rural Affairs. □

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### Five named to NRC

The federal government recently announced five appointments to the governing council of the National Research Council.

Serving three-year terms are John ApSimon, associate research vice-president at Carleton University; Nuala Beck, president of a Toronto-based research consulting firm; Maureen

Kempston Darkes, vice-president of General Motors Corporation and president and general manager of General Motors of Canada Limited; Otto Forgacs, a forest-products consultant in Vancouver; and Peter Nicholson, senior vice-president of the Bank of Nova Scotia. □

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# OUR COMMUNITY

## NOTICES

### Bondar to speak

OAC graduate Roberta Bondar, Canada's first female astronaut, will give a talk called "Onwards and Upwards: Women in Work Positions Traditionally Held by Males" March 15 at 8 p.m. in the Meeting Place at the Scarborough campus of the University of Toronto. Parking and admission are free, but seating is limited. For more information, call 416-287-7080.

### Jazz up your spring

Usher in spring with the jazzy sounds of the Springtime Quartet March 23 at the Macdonald Stewart Art Centre. Sponsored by the centre and the Department of Music, the concert will feature works by Charlie Parker, George Gershwin, Cole Porter, Miles Davis, Sonny Rollins and Duke

Ellington, as well as some original compositions. The concert begins at 8 p.m. Tickets are \$8 general, \$5 for students and seniors, and are available at Ext. 3127.

### GWC<sup>2</sup> lecture series

The Guelph-Waterloo Centre for Graduate Work in Chemistry presents its Distinguished Lecturer Series March 13 to 17. Francis Castellino of Notre Dame University will speak March 14 and 16 at 3:30 p.m. in DC-1302 at the University of Waterloo and comes to Guelph March 15 to speak at 3:30 p.m. in Room 222 of the MacNaughton Building.

### Working abroad

International Education Services (IES) has a series of information sheets available for people planning to study or work abroad. They cover such topics as safety, cul-

tural sensitivity, conducting research and selecting a work or study program. For more information, visit IES on Level 4 of the University Centre or send e-mail to lmitchel@uoguelph.ca.

### Maple Syrup Days

Come experience the sights, sounds, smells and tastes of making maple syrup during the Arbo-retum's Maple Syrup Days, to be held March 11, 12, 18, 19, 25 and 26 from 10:30 a.m. to 4:30 p.m. Cost is \$2.50 for adults, \$1.50 for children five to 12, free for pre-schoolers.

### March break fun

Guelph Museums presents a "Fun Week for Kids" March 13 to 17. Daily programs run from 9:15 to 11:45 a.m. at the Guelph Civic Museum and from 1 to 3:30 p.m. at McRae House. Programs are for children aged five to 10. Cost is \$7 per session. To register, call 836-1221.

### Housing seminars

Student Housing Services continues its seminar series about living off campus March 13 in the Maids Hall lounge, March 14 in the East

Residences fireplace lounge and March 15 in the Johnston tower lounge. The hour-long seminars begin at 6 p.m.

### Gray to speak

Solicitor-General Herb Gray will speak at a wine-and-cheese reception March 8 at 6:30 p.m. at the Springfield Golf and Country Club. Cost is \$30. For tickets, call Alex Macrae at 837-1406.

### Tax seminar

The YMCA-YWCA of Guelph is offering a session on "Taxes: Why Pay More?" March 23 from 7:30 to 9:30 p.m. Cost is \$10. Register by March 16 at the Y at 400 Speedvale Ave. E.

### Orchestra, winds perform

The U of G Orchestra, led by Henry Janzen, and the U of G Concert Winds, led by John Goddard, perform March 24 at 8 p.m. at War Memorial Hall. The program will feature works by Bach, Copland, Verdi, Joplin and Mossorgsky. Tickets are \$8 and \$5.

### Fair November

The University Centre requires submissions for participation in

the annual Fair November craft exhibition by March 31. Work should be displayed in slide form. Applications are available at the University Centre Office in Room 266, Ext. 3903.

### At the opera

The U of G Alumni Association has block booked tickets for Puccini's opera *La Bohème* April 1 at 8 p.m. at Hamilton Place. Tickets are \$32. For more information or tickets, call Ext. 2102.

## JOBS

As of At Guelph deadline March 3, the following opportunities were available:

**Chief Librarian, McLaughlin Library.** Salary commensurate with qualifications and experience. Removal date: April 15.

*The following was available to on-campus employees only:*

**Secretary, OAC Dean's Office,** temporary leave from March 31 to Nov. 10/95. Salary: \$13.17 to \$14.71 per hour. Removal date: March 8/95.

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When: Monday, March 13, 1:00 to 3:00 p.m.  
Where: Room 441, U.C.  
Who: Anyone interested in understanding  
this invisible disability

To register for this free seminar or for more information call  
the Centre for Student Disabilities at Ext. 6208.

### FOR SALE

Inglis washer and Maytag dryer, 822-7246.

Boy Scout shorts, size 36, belt and buckle, socks, beret, 822-3129.

Seiko Sportek watch, new, chronograph and alarm, stainless steel, black bezel, white face, Ext. 2407.

LED programmable message boards, demos; Fax m/c with auto switch, 824-7779.

Baby crib, natural pine color, mattress, like new, Ext. 8739 or 846-8151.

Sears "Winnie the Pooh" stroller, excellent condition, powder blue, reversible handle, converts to carriage, double wheels; Evenflo car seat, CSA-approved, 821-6059.

Three-bedroom townhouse with in-law apartment, Ferman Drive, private fenced yard, newer carpeting, includes two fridges, two stoves, washer, dryer and water softener, gas fireplace, Dolores, 837-0785.

Two-bedroom condo, close to parks, schools and Stone Road Mall, 15-minute walk to University, five appliances, central air, 1 1/2 baths, large kitchen, open-concept living room, 821-0565.

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Large furnished room in private home, walk-in closet, bathroom, shared kitchen and laundry, 15-minute walk to University, on bus route, Ext. 6323 or 822-2336 after 5 p.m.

Furnished five-bedroom home to rent during sabbatical, September 1995 to May/June 1996, country setting in Puslinch, 10-minute drive to campus, \$1,250 per month plus utilities, Ext. 8550/8552 or 836-2714.

One-bedroom apartment, 10-minute drive to University, large property, pets welcome, available May 1 for summer sublet or one-year verbal lease, \$350 a month inclusive, 856-2744.

Large room with ensuite in student-leased home, old University area, non-smokers, will sublet March to August, \$300 a month, Mark, 763-8562.

Three-bedroom townhouse in West Palm Beach, Florida, quiet subdivision, pool and tennis courts, close to golf courses, two-week minimum stay, non-smokers, no pets, 1-905-791-7712 or 822-3129.

Three-bedroom lakefront cottage, access to snowmobile trails, five minutes from Parry Sound, \$450 a week or \$1,500 a month, 1-905-822-9015.

### WANTED

For rent or exchange, two-bedroom furnished house or apartment for visiting faculty member and family from New Zealand, mid-May to December, Douglas, Ext. 2341.

Two-bedroom apartment or townhouse needed by the middle of March, 822-7246.

Responsible married couple seek country apartment or house, 837-8159.

Small cottage to rent for July and August, near Rosseau, 836-6758 evenings and leave message.

Large interoffice envelopes, send to University Communications, UC Level 4.

Stereo turntable and tone arm, Ext. 2538.

1990 to 1993 imported hatchback in good to excellent condition, Mark, 763-8562.

Older-model Macintosh computers, whole or parts, Ext. 6472.

### AVAILABLE

Child care for all ages, ECE teacher, lots of activities, meals, reasonable rates, Waverly Drive area, 823-0720.

Care for your dog provided in my home while you travel, references available, Cobi, Ext. 6010 or 836-8086.

Abled-bodied university graduate willing to do jobs to pay off student loans, references available, John, 837-0807.

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# CALENDAR

## THURSDAY, MARCH 9

**Pathology Seminar** - Graduate student Della Johnston examines "Use of Reverse Transcription/Polymerase Chain Reaction for the Evaluation of Pathogenic and Drug-Resistant Strains of *Eimeria* Species of the Domestic Fowl" at 11:10 a.m. in Pathology 2152.

**Concert** - The Department of Music presents a free concert with the Andrew Klachn Quartet at noon in MacKinnon 107.

**Reading** - Canadian poet Tim Lilburn will read from his latest work, *Moosewood Sandhills*, at 2:10 p.m. in MacKinnon 229. The talk is sponsored by the Canada Council and the Department of English.

## FRIDAY, MARCH 10

**Nutritional Sciences Seminar** - George Cheria of the University of Western Ontario discusses "Metallothionein in Mineral Metabolism and Development" at 11:10 a.m. in Animal Science/Nutrition 141.

**Biomedical Sciences Seminar** - Graduate Student Nancy Rumph discusses "Cryobiology of Bovine Embryos with Reduced Cell Number" at 12:10 p.m. in OVC 1641.

**Evolution/Systematics Seminar** - Prof. Brian Husband. Botany, explains "Evolution of Inbreeding Depression in Plants: Lessons From Polyploids" at 3:10 p.m. in Animal Science/Nutrition 141.

**Economics Seminar** - "Laboratory Experiments With Tradeable Emissions Permits" is the topic of Andy Muller of McMaster University at 3:30 p.m. in MacKinnon 132.

## MONDAY, MARCH 13

**Learning Resource Centre** - A seminar for international students on "Avoiding Preposition Problems" begins at 12:10 p.m. in UC 333. Cost is \$5. Register at the Connection Desk on UC Level 3.

**Seminar** - The Centre for Students with Disabilities is offering a free seminar on "Understanding Learning Disabilities . . . How Difficult Can This Be?" at 1 p.m. in UC 441. Register at Ext. 6208.

## TUESDAY, MARCH 14

**Our World** - "Burma - The Untold Story" is the topic at 12:10 p.m. in UC 103.

## WEDNESDAY, MARCH 15

**International Development Series** - Prof. Marta Rohatynskyj, Sociology and Anthropology, discusses "The Enigmatic Baining of Papua New Guinea: The Breaking of an Ethnographer's Heart" at 12:10 p.m. in MacKinnon 316.

**Biochemistry Seminar** - Graduate student Kara Reid-Taylor considers "Behavior and Interactions of the GPI-Anchored Protein Thy-1 in Lipid Bilayers" at 12:10 p.m. in MacNaughton 222.

**Plant Biology Seminar** - Nancy Dengler of the University of Toronto explains "Tissue Differentiation in C4 Plants" at 3:30 p.m. in Axelrod 117.

## THURSDAY, MARCH 16

**Concert** - The Department of Music presents a free concert featuring pianist Ralph Elsaesser at noon in MacKinnon 107.

**College Royal** - The Curtain Call production of *City of Angels* opens at 8 p.m. in War Memorial Hall and continues nightly until March 18, with a 2 p.m. matinee on Saturday. Tickets are \$6.

## FRIDAY, MARCH 17

**Nutritional Sciences Seminar** - Suzanne Hendrich of Iowa State University discusses "Bioavailability and Biological Effects of Soybean Isoflavones" at 11:10 a.m. in Animal Science/Nutrition 141.

## SATURDAY, MARCH 18

**College Royal** - The annual open house runs from 9 a.m. to 5 p.m., featuring a wide range of displays and events across campus. For a complete list, see the College Royal insert included with this issue of *At Guelph*.

# WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thornbrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

"Spiritual Mentors: W.E. Cummings" is the topic of Prof. Hans Bakker, Sociology and Anthropology, March 12 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road. □

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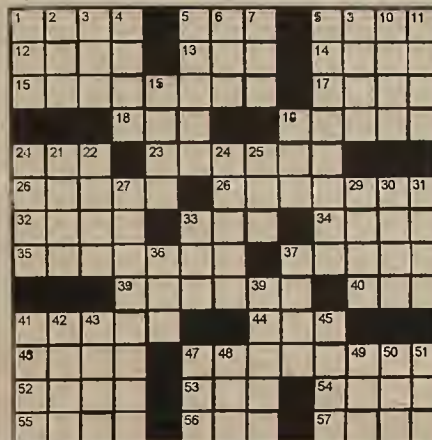
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## ACROSS

1. Mineral salt
5. Describing a wallflower
8. Puts in seed
12. Tacit performer
13. Foot part
14. Sharp saying
15. Stop talking
17. Egg on
18. Loco loco: abbr.
19. Past the prime
20. Nigerian native
23. Frank
26. Samisen-like instrument
28. Result
32. Small island
33. Poem set to music
34. Stratford-upon-

35. Towards the heavens
37. Meat juice
38. More agile
40. August baby
41. Rope loop
44. Musical syllables
46. Solo performance
47. Hudson's ship
52. Singer Vikki
53. Winker
54. In the past
55. Lend aid
56. Cyst

## DOWN

57. Total box office receipts
29. Elliptical residence
30. Change residence
31. War goddess
33. Former Boston Bruin
36. Inclined
37. German nobleman
39. Actress Burstyn
41. German composer
42. Dies
43. Damsel
45. Smoky fog
47. Cut with an ax
48. Affirmative vote
49. "Bird" Wire
50. Calendula's mo.
51. Born

For crossword solution, see page 4.

◆ Auto ◆ Home  
◆ Business ◆ Life

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### A winning combination

Canada Scholars Chris Henschel and Elizabeth Bent are two of four U of G students to receive Special Corporate Awards for 1994/95. A complementary initiative of the Canada Scholarships Program, the awards — valued at \$1,000 or

\$1,500 — promote excellence and research in specific fields of science, engineering and technology. The other U of G winners are Anthony Fishback and Thomas Grimminck.

Photo by Kerith Waddington,  
University Communications

## Eat your way around the world at HAFA

Ethnic cuisine has come to campus — but only until April, and then it's gone.

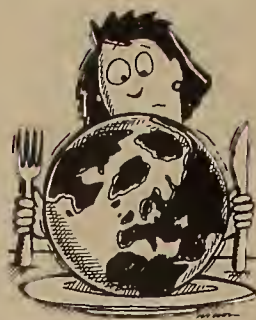
Students in HAFA's "Restaurant Operations" course are staging a series of theme dinners every Wednesday evening until April 5, featuring Sicilian, Moroccan, "West Meets East" (Canadian and Chinese), Russian and Sri Lankan fare.

Prof. Jo Marie Powers says the students are cooking up a unique dining experience. "They went into libraries and restaurants to conduct research into ethnic cuisines and cultures," she says. "And they selected the artifacts,

decorations and music to accompany each dinner to add to its ambience."

"Giardino Siciliano," "Shaban Restaurant," "Symphonic Moon," "In the Days of the Tsars" and "Pearl Island" are the themes of the cultural culinary adventures. The students, who spent the first half of the term refining recipes and attending technically oriented lectures — will work in teams to prepare and present the dinners.

Powers is confident the dinners will be well received given the growing interest in ethnic cuisine in this country. "Canada has a multicultural heritage, which the



themes are themselves reflective of."

The dinners begin at 7 p.m. at the HAFA restaurant. Reservations are required and can be made at Ext. 3781. □

## Horticulturist is MacMillan Laureate

Renowned horticulturist Ernest Kerr of Simcoe has been named the 1994 H.R. MacMillan Laureate in Agriculture. Awarded every five years, the honor recognizes the most significant contributions to Canadian agriculture during the previous five years.

The laureate is awarded from a trust fund established by the late H.R. MacMillan and administered by U of G. A 1906 graduate of OAC, MacMillan initiated the award in 1966 when he received an honorary degree from Guelph.

President Mordechai Rozanski presented Kerr with the \$10,000 award and a citation March 5 in Ottawa at the annual meeting of the Canadian Horticultural Council. It is the first time the award has been presented to a horticulturist. Kerr was nominated by the

Ontario Institute of Agrologists.

Born near Guelph, he was educated at McMaster, McGill and the University of Wisconsin. He was a scientist with the Ontario Ministry of Agriculture, Food and Rural Affairs at the Horticultural Research Institute of Ontario from 1944 to 1982. After retiring from public service, he was appointed director of research at Stokes Seeds Ltd. in St. Catharines, Ont.; he retired a second time in December 1994.

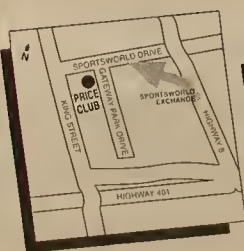
During his career, Kerr developed more than 60 named cultivars of greenhouse and field tomatoes, sweet corn and sweet pepper. In addition, more than 90 sweet corn inbreds have been released to other breeders. In the past five years alone, while in his mid-seventies, Kerr released eight new cultivars. □

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39th  
Year

# AT GUELPH



College Royal Open House,  
March 18 & 19, 1995

Volume 39 No. 10

University of Guelph, Guelph, Ontario

March 15, 1995

## FIRST GLANCE

### Public SPC meetings continue

A series of public meetings to discuss the interim report of the Strategic-Planning Commission (SPC) continues throughout the month. The report, called "Making the Choices: A Draft Vision and Enabling Strategies," maps out a vision for the future of the University.

The meetings are scheduled as follows:

- March 22, 5 to 7 p.m.,  
Thombrough 100.
- March 27, 4 to 6 p.m., UC  
103.
- March 29, 4 to 6 p.m.,  
OVC Learning Centre  
1714.

A meeting for alumni will be held March 29 at 6 p.m. at the Arboretum. An RSVP for this meeting only is requested at Ext. 6541.

Copies of the interim report, which was published with the March 8 issue of *At Guelph*, are available from the SPC office on Level 4 of the University Centre, the Connection Desk on Level 3 and the *At Guelph* distribution boxes on Level 1.

## Inside:

Take a wild bird under  
your wing . . . . . 3

Students say 'yes' to  
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OVC, McMaster  
collaborate on cancer  
research . . . . . 3

Focus on leaching and  
learning . . . . . 4

Women's hockey team  
brings little home . . . 5

Kids are the experts in  
playground design . . . 8

### Thought for the week

Never eat more than you  
can lift.

Miss Piggy

**DOWNTOWN  
GUELPH**



### Get motoring to College Royal

The College Royal executive takes time out from their busy schedule to check out the boating conditions in the Donald Forster Sculpture Park. This weekend, the executive and hundreds of other students involved in

College Royal will be out in full force to welcome thousands of visitors to campus. From left are Kevin Abell, Kirsten Tank, Jennifer Booth, Natalie Kontakos, Andree Hurtubise, Christy Laing, Petrice Custance and Karen

Dupont. Missing is chair Blake Hewitt. A full list of College Royal events is available from the College Royal office on Level 2 of the University Centre, Ext. 8366.

Photo by Kerith Waddington, University Communications

## Memorial biologist appointed dean of CBS

The College of Biological Science will have a new dean in July. He is Robert Sheath, head of biology at Memorial University of Newfoundland. His appointment is for a five-year term that is at the discretion of the president and can be renewed. He has also been appointed professor with tenure in the Department of Botany.

Born in Toronto, Sheath graduated from the University of Toronto with a B.Sc. in biology in 1973 and a PhD in botany in 1977. He then lectured at U of T in marine biology and introductory biology before becoming a postdoctoral fellow at the University of British Columbia. In 1978, he joined the department of botany at the University of Rhode Island, serving as chair from 1986 to 1990. He moved to Memorial in 1991.

While at Rhode Island, Sheath

to the study of algae.

Last year, Sheath was named natural sciences co-ordinator for Memorial's eco-research program. He led a \$275,000 multidisciplinary research program involving 20 researchers and students from four university departments and two government agencies, interfacing with 30 investigators in health, education and social sciences. He was also an executive committee member of the board of directors of Memorial's botanical gardens.

Sheath has been published in more than 85 reviewed journals and proceedings and is co-editor of *Biology of the Red Algae and Freshwater and Marine Plants of Rhode Island*.

He has been awarded numerous grants from the U.S. National Science Foundation, Natural Sciences and Engineering Research

Council of Canada, Tri-Council Secretariat Eco-Research Program and the Polar Continental Shelf Project. The largest was in 1994 when the Eco-Research Program awarded \$1.3 million to a management committee Sheath served on for the study of sustainability in a changing cold-ocean coastal environment.

Sheath is married to Mary Koske, who worked on the *Guelph Mercury* in 1973 and is now an elementary school teacher in St. John's.

President Mordechai Rozanski says he welcomes Sheath's appointment. The new dean "was selected from an extraordinarily strong field of candidates," says Rozanski. "He brings to the position not only a strong academic and research background, but also a proven record of administrative skills." □



Robert Sheath

chaired a task force involving two colleges, a graduate school and 13 departments that examined a major restructuring of life science programs throughout the university. In 1991/92, he was president of the 2,000-member Phycological Society of America, the largest organization in the world devoted



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by David Westhead  
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## RESEARCH AWARDS

The International Development Research Centre awarded Prof. Tom Michaels, Crop Science, \$59,210 for Phase 2 of the project "Sustained Pest Resistance in Beans (Guelph/Mexico)."

Phase 2 of the Canadian Bacterial Disease Network (CBDN) of the Network of Centres of Excellence awarded the following support to faculty in the Department of Microbiology: \$208,086 to Prof. Joseph Lam, \$124,192 to Prof. Lucy Mutharia, \$180,608 to Prof. Reggie Lo, \$188,208 to Prof. Terry Beveridge, \$181,470 and \$30,000 to Prof. Chris Whitfield and \$198,844 to Prof. Anthony Clarke. Clarke also received \$30,000 from Synphar Labs, CBDN, for a "Detailed Molecular Examination of the Factors Determining the Efficacy of B-Lactamase Inhibitors."

Prof. Peter Pauls, Crop Science, received \$8,000 a year for two years from the Embassy of the Arab Republic of Egypt for Hisham Deif's research on "Genetic Analysis of Orabanchc."

Prof. Tom Nudds, Zoology, received \$8,000 from the Ministry

of Natural Resources in support of Claudia Schubert's PhD project, "Control of Skunk Rabies in Urban Areas of Ontario."

NSERC has funded the following research visits to U of G:

■ \$14,000 to Prof. Ann Oaks, Botany, for Suek-Chan Koh of Korea to work on the project "Enzymes Involved in the Hydrolysis of Y-Zein in Maize Endosperm";

■ \$1,500 to Prof. Larry Peterson, Botany, for S.E. Smith of Australia to study "The Physiological Nature of the Interface Between Fungal Hyphae and Root Cells in Mycorrhizae";

■ \$12,500 to Prof. Bill Smith, Mathematics and Statistics, for I. Nezbeda of the Czech Republic to work on "Statistical Mechanical Studies of Phase and Reaction Equilibria for Mixtures of Associated Fluids";

■ \$3,110 to Prof. Ed Janzen, Clinical Studies, for L.A. Heinke of the University of Oklahoma to work on "An Examination of Hepatotoxicity and Kupffer Cell Function Using MRI and Spin Trapping"; and

■ \$3,800 to Prof. Patricia Wright, Zoology, for P.M. Anderson of the University of Minnesota to work on "Ureagenesis in Teleost Fish." Prof. Joseph Lam, Microbiology, received \$15,295 a year for two years from the Canadian Cys-

tic Fibrosis Foundation for student James Laithwaite's work on "The Potential of Engineered Antibodies for Opsonization and Killing of *Pseudomonas Aeruginosa*."

The Richard Ivey Foundation has provided Prof. Jim Bogart, Zoology, with \$170,000 for the project "Spatial Distributions and Ecological Relations of Herpetofauna in Forest Ecosystems of Ontario." He also received \$30,000 from NSERC's Wildlife Toxicology Fund to study "Toxicological Effects of Agriculture Run-Off on Rapid Frogs" and \$10,800 from Foothills Forest for student Karen Graham's M.Sc. research.

Prof. Paul Hebert, Zoology, received \$15,000 from the Wildlife Toxicology Fund for the project "Mutagenic Impacts of Contaminant Exposure."

The Alberta Agricultural Research Institute awarded \$20,000 to Prof. Wayne Martin, Population Medicine, to study the "Effects of Sour Gas Emissions on Health and Productivity in Alberta Beef and Dairy Herds."

Prof. Steve Bowley, Crop Science, received \$30,000 from the Ministry of Environment and Energy for his work on "Endophyte Alkaloid Production for Insect Control in Turfgrasses."

NSERC's industrially oriented research program has awarded:

■ \$20,000 to Prof. Jock Buchanan-Smith, Animal and Poultry Science, to study the "Effect of Dietary Incorporation of Fish Meal in Beef Cattle Diets on the Omega-3 Fatty Acid Content of Beef";

■ \$15,000 to Prof. Dilip Banerji, Computing and Information Science, for "Architecture Exploration and Retargetable Microcode Generation"; and

■ \$8,000 to Prof. Clifford Ellis, Environmental Biology, for "Biological Control of Clover Casebearer."

Prof. David Evans, Molecular Biology and Genetics, received \$1,785 from the MRC's visiting scientist program to support his visit at the Fred Hutchinson Cancer Research Centre in Seattle.

Prof. Bruce Holub, Nutritional Sciences, received \$2,037 from NSERC's bilateral exchange to

help host a joint Canada-Korea nutrition symposium on "Food Fats, Health-Lipid Metabolism and Designing Food Strategies in Animal Agriculture."

Scmex Canada awarded Prof. Jim Wilton, Animal and Poultry Science, \$7,000 for the Canadian Genetics Improvement of Live-stock/Information Technology Research and Development.

Prof. Richard Protz, Land Resource Science, received \$25,000 from Agriculture and Agri-Food Canada to study "Soil Organisms as Bioindicators of Agronomic Practices."

Prof. Bernie Grodzinski, Horticultural Science, will receive up to \$4,500 from the Ministry of Education and Training (MET) for the project "Use of Short-Lived Radionuclides, <sup>11</sup>C and <sup>13</sup>N, in Studies of Leaf Development." MET will provide Prof. Alen Sullivan, Horticultural Science, with up to \$3,800 for his work on "Increasing Environmental Adaptation in New Strawberry Cultivars" and \$2,500 to Prof. Bill Beamish, Zoology, for the project "Ecology of Lake Sturgeon."

Environment Canada's Atmospheric Environment Services has provided the following support:

■ \$12,000 a year for three years to Prof. Nigel Bunce, Chemistry and Biochemistry, for the project "Products and Mechanism of the Photochemical and Hydroxyl Radical Reactions of Polycyclic Aromatic Hydrocarbons in Air";

■ \$14,000 a year for three years to Prof. Iain Campbell, Physics, for "Fine Particulate and Visibility Monitoring at Remote Sites";

■ \$10,000 to Prof. Bev Hale, Horticultural Science, for her work on "Mechanisms of Plant Tolerance to Ultraviolet-B Radiation Stress";

■ \$18,000 to Prof. Terry Gillespie, Land Resource Science, for the project "Volatile Organic Compound Fluxes from Agricultural Surfaces"; and

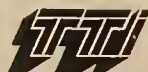
■ \$20,000 to Prof. George Thurtell, Land Resource Science, for "Flux Measurements of Greenhouse Trace Gases." □

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Bald eagle Akeela, star attraction at a recent Wild Bird Clinic display at the Stone Road Mall, doesn't get ruffled when interested onlookers crowd around.

Because she was imprinted on humans, she thinks all the shoppers at the mall are her kin.

Photo by Kerith Waddington, University Communications

## Adoption program lets you take a bird of prey under your wing

The eagle has landed. And she's looking for friends.

Akeela, a six-year-old eagle from the West Coast, is one of a number of birds at OVC's Wild Bird Clinic that members of the public can take under their wing as part of the clinic's new "Adopt a Bird of Prey" program.

Designed to offset the costs of feeding and housing the animals, the program gives people an opportunity to get more involved in the care of the clinic's resident birds.

These birds are used in the clinic's educational program, which visits schools and community groups throughout southern Ontario.

The clinic, which rehabilitates more than 200 birds of prey for release each year, recently staged a display in the Stone Road Mall to promote awareness of its work and the new adoption program.

Costs to adopt a bird are \$25 for a kestrel/screech owl, \$40 for a red-tailed hawk, turkey vulture or great horned owl, \$55 for a pere-

grine falcon and \$75 for a bald eagle.

People adopting a bird will receive a color photograph of the animal and a certificate providing details about its species, sex and history. They'll also receive an invitation to a fall open house, where they can visit the bird they've adopted. Adoptions are for a one-year period.

For more information about the adoption program, call Ext. 4573. To report an injured bird, call Ext. 4162. □

## Retired vet supports collaborative cancer research at OVC, McMaster

by Margaret Boyd  
University Communications

OVC and McMaster University will each receive \$200,000 for co-operative research on cancer from retired veterinarian Blake Graham, a 1951 graduate of OVC. The two institutions will be investigating the merits of cytokine gene-transfer therapy as it relates to cancer in dogs and humans.

OVC's team, which will be studying cancer in dogs, consists of Prof. Steven Kruth, Clinical Studies, and Profs. Anne Croy, Allan King and Jon LaMarre, Biomedical Sciences. McMaster's team, studying human breast cancer, includes pathologists Jack Gaudie and Ron Carter, a 1983 graduate of OVC.

Graham says the main incentive for the research grant was to find an appropriate memorial for his late wife, Barbara, who died of breast cancer. "We have to find a better way of treating breast cancer," he says.

Both teams will use a strategy of isolating malignant cells, infecting them with a virus containing certain genes that are expected to make the cancer cells better targets for destruction by the animal's or person's own immune system, then giving the cells back to the patient.

Cancer in pets has always been relatively common, says Kruth. In the past, the animal was usually euthanized as soon as the diagnosis was made, but owner attitudes have changed. Pets are now seen as true family members, and owners have a better understanding of what's possible in therapy, so vets are called on more frequently to treat these animals.

The approach to be adopted by the OVC/McMaster researchers is to place "turned-on" cytokine genes inside cancer cells, making these cells — especially

the metastatic ones — more recognizable to the animal's immune system and more likely to be killed by the immune response. A biopsy sample of the cancer is cultured and grown, and cytokine genes of interest are inserted into virus vectors. The virus/cytokine gene is then placed into the cell culture, and because the genes are active, cytokine proteins are produced on the surface of the tumor cells. The tumor cells are then killed (to prevent them from causing malignant disease themselves), and the newly created tumor vaccine is then injected into the patient. This approach is called gene therapy, and one of its assets is that it's not associated with any side effects. Gene therapy is not viewed as a complete treatment but as an important addition to other, already effective management strategies.

The OVC team will investigate two types of naturally occurring canine cancer — malignant mammary cancer, known to be associated with a high rate of metastatic disease in the lungs of affected dogs, and osteosarcoma (bone cancer). A regimen of chemotherapy will be given initially in both cases, followed by gene therapy. All animals, both in the research and control groups, will be followed carefully for development of metastatic disease. It is hoped that dogs receiving gene therapy will have significantly longer survival times — and as good a quality of life — as dogs undergoing standard treatment.

OVC will co-ordinate clinical management of dogs entering the study and be responsible for characterizing the tumors. McMaster will co-ordinate the actual infection of cell cultures established at OVC. It's hoped that information gained from OVC's gene therapy with dogs will be applicable to human medicine. □

## Students say 'yes' to support services fee

by Kerith Waddington  
University Communications

Students gave a resounding "yes" in a February referendum on whether or not to incorporate a student support services fee.

The fee of \$28 per semester per full-time student will be incorporated this spring after 2,128 students voted to support it and 1,178 voted against. The fee is aimed at safeguarding the quality of a variety of student programs, including financial, career and personal counselling, the peer helper program, learning support services and personal and safety support services. In addition, five per cent of the funds collected will go towards program enhancement.

Brian Sullivan, associate vice-president for student affairs, believes the "yes" vote affirms the value that Guelph students place on the many support services offered at U of G.

"Students have indicated with these results their determination to ensure the continued availability and responsiveness of these services," he says. "I personally commend the many students and staff who worked hard to inform the University community about the issues and encouraged students to get out and vote."

Establishment of a protocol for determining student approval or disapproval regarding ancillary fees and their allocation is as much a coup for the students as the maintenance of services, says Trina Burden, president of the Graduate Students' Association (GSA).

"Guelph is unique in that it is the only Ontario university to take this issue to a referendum," she says. "With this protocol established, future ancillary fee increases beyond the cost of living will automatically go to a referendum, and students will again decide what services are valuable enough to them to support."

A student support services (SSS) fee committee is being established to oversee the allocation of funds collected and will be up and running by May. Its mandate will include such areas as service and resource-allocation reviews, proposals for fee increases or decreases, the investigation of funding alternatives and annual reports back to students.

The committee will have a student majority, with two students from both the Central Student Association and the GSA, one student senator and one from Board of Governors working alongside five University administrators. This ensures that the needs of students will be both heard and met,

says graduate student Daniel Sellen.

"Ongoing student input about fee allocation is built into this system because committee members will be linked closely with student government," he says. "Students will be accountable for how fees are collected and managed."

CSA spokesperson Lesley Issacs — who admits to being thrilled that all the hard work paid off — says another job of the SSS fee committee will be to answer any lingering questions students may have.

"The committee will be most effective in safeguarding support programs if it has ongoing consultation with the student body," she says. "Given the growing number of pressures students at university face, this is more important than ever." □

## New CSA executive voted in

There will be a change of hands in student government come May as the new Central Student Association (CSA) executive comes on board.

The executive was elected last month in a general election that drew higher voter turnout than last year. Quinn Dam, the CSA's finance and operations commissioner, attributes the turnout to interest in a referendum on a student fee for support services. The referendum passed (see accompanying story).

The CSA's new spokesperson is Lance Morgan, a fourth-year political studies student. External commissioner is fourth-year BA student Jennifer Story. Internal commissioner is Ian Simmie, a fourth-year student in HAFSA. Elected to the position of finance and operations commissioner is Kim Radbourne, a third-year co-op student majoring in economics. Mike Smiley, a fourth-year student in sociology and marketing is activities commissioner. The new local affairs commissioner is fourth-year political studies student Brian Smith.

The CSA elections also included a referendum for College of Arts students on whether to pay 80 cents a semester to support *Carousel* magazine. This referendum passed. But a bid by CFRU to obtain a contribution of 93 cents a semester from students was turned down. □

## Engineering students win silver at Ontario competition

Two U of G students struck silver at the annual Ontario Engineering Competition, held this year at Ryerson Polytechnic University. Only two Guelph students entered the competition, and both captured second place in their category.

Donna Serrati, a fourth-year student in water resources engineering, won in the explanatory communications category for her

paper on "The Global Positioning System: An Engineering Tool for the '90s."

Marion Baldwin, a fourth-year environmental engineering student, won in the editorial communications category with a presentation on "Engineering the Third World." Baldwin went on to place third at the national competition in Edmonton. □



## FOCUS ON TEACHING AND LEARNING



Students on the crop science field trip pose with Prof. Rick Upfold, back row right, in front of the bus that took them to the American Midwest to meet with agribusiness leaders.

### Students go country to study agriculture

Learning can take place in a farmer's field as well as in a classroom.

That's the premise behind the crop science field trip — a two-week bus tour of the American Midwest for students interested in agriculture and agribusiness. It involves visits to cash-crop and livestock farms, supporting industries such as processing and manufacturing and markets such as stockyards and elevators.

Prof. Rick Upfold, Crop Science, who's been teaching the optional course since 1983, believes the trip offers students a type of education not available in the classroom.

"Students are exposed to different farming philosophies and methods when they speak with a variety of farmers and industry representatives," he says. "Exploring problems within the industry and hearing predictions about its future from those with practical experience is a broadening experience that adds to classroom work."

Leaving the last week of August and returning the second week of September, the tour takes students as far west as Colorado and as far south as the Missouri/Arkansas border. This allows exposure to a wider variety of crops and farming methods, says Upfold. Corn

and soybeans are the most popular crops in the north; cotton, rice and catfish farming are common in the south.

Student evaluation is based on discussion groups held en route and a paper submitted after the class returns to Guelph.

With the American Midwest forming Ontario's primary agricultural competitor and influencing what happens here financially,

Upfold is excited by the level of information exchange that occurs on the tour.

"Different farming and crop experiences are brought together with exposure to the variety of ideas held by leaders in the agricultural community," he says.

"Leaving the classroom enables this knowledge base to be tapped while students create their own." □

### CBS elects ombudsperson

A newly elected biological science ombudsperson will act as an intermediary between students and faculty.

Rebecca Arthur, a first-year major in biological science, was elected associate vice-president and academic ombudsperson of the CBS Students Council in the recent college government elections. She takes up her position in September. Arthur is also the CBS representative on the Central Student Association.

A native of Windsor with an interest in student leadership, Arthur says students will be encouraged to submit concerns in writing to her at Biology House. She will discuss any complaint

with assistant college dean Denis Lynn without disclosing the student's name.

"In some cases, it may be necessary to consult with the faculty member or department chair to determine an appropriate course of action," she says. "And I could see that there might be occasions when it would be necessary to disclose the student's name, but that would not be done without first gaining permission."

The position was established by the CBS Students Council in 1994 to help solve problems that students might feel intimidated about raising with an individual faculty member. Arthur will approach faculty in September about speaking to classes to inform students about the program. □

## Speakers enhance the classroom experience

by Kerith Waddington  
University Communications

There's a place where theory and application meet — and for more and more U of G professors, it's in the classroom.

Industry and research leaders are increasingly being invited into campus classrooms to round out ideological educations with a healthy dose of economic and workplace reality. By illustrating where and how education can be applied in careers, presentations by those actually working in a particular field can help students understand and internalize the practical realities of what they're learning.

In the Department of Crop Science, Prof. Ann Clark invites a wide range of speakers to her course "Crops in Land Reclamation" to address such topics as naturalizing aggregate extraction sites, reclaiming metallic mine wastes and consulting on environmental issues.

"A curriculum that overemphasizes factual content puts students at a disadvantage when they enter the job market," says Clark.

"Success in the real world depends less on knowing the application rate of a given biocide or the number of leaflets in birdsfoot trefoil and more on knowing how to express your position effectively, how to compromise and how to work collegially to achieve a specified output by a given deadline. In the real world, decision making is a multidimensional process, encompassing not simply diverse bodies of knowledge but an array of skill sets."

Student response to the guest speakers is positive, says Clark. "It's usually their favorite part of the course."

Prof. Jim Pickworth, HAPA, who uses industry representatives to supplement the classwork in his course "Operations Analysis in the Hospitality Industry," agrees there are two aspects to learning.

"Most students recognize that knowledge is only part of the picture," he says. "It is also important to be able to apply that knowledge. The skill development part of learning goes beyond observation to real problem solving that will enable them to know how and

when to apply it."

So in addition to bringing members of the industry in, Pickworth sends his students out to local restaurants. There, without being allowed to question staff and management, they identify strengths and weaknesses in areas such as menu, pricing, theme, service methods, human resources and administration.

After presenting their report and recommendations to a panel, the students are asked to explain how and why they reached such conclusions.

Pickworth believes this consultancy-type process helps students develop their critical thinking skills.

"Learning how to follow through on theory with relevant application is necessary for effective problem solving," he says.

In the Department of Sociology and Anthropology, Prof. Victor Ujimoto brings speakers in to his "Comparative Sociology and Anthropology: Contemporary Canadian and Japanese Societies" course. With U of G a member of the Japan Society — a conglomeration of presidents and CEOs from major Japanese and Canadian-owned corporations in Canada — he taps their human resources when bringing in speakers.

Ujimoto also takes students on-site to a number of local Japanese-owned industries such as Honda and Toyota.

His goal is to provide students with leading-edge research material, cultural exchange and awareness of transfer technology from one country to another.

"We are living in a global information society, where whatever happens in one part of the world affects Canadian society virtually overnight," he says.

"With Asia-Pacific growing in importance, broadening perspectives with a type of cultural exchange will enable students to see where Canada fits into the global environment. Courses like this will give them an advantage in what is currently a tough employment market." □

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### Forum to focus on roles, rewards

Profs. Ron Stoltz and Robert Brown, Landscape Architecture, will give a report on the third American Association for Higher Education Forum on Faculty Roles and Rewards March 17. The talk begins at noon in Room 125 of Day Hall.

On March 31, a national satellite videoconference on "Enhancing and Evaluating College Teaching and Learning" will be held from 1 to 4 p.m. at the Eccles Centre.

To register for either event, call Helen Martin in Teaching Support Services at Ext. 2973. □



## Women's hockey brings provincial title home for first time in 21 years

by Kerith Waddington  
University Communications

Victory is sweet, and for the women's varsity hockey squad, the "icing" on their cake was winning the Ontario Women's Intercollegiate Athletic Association (OWIAA) final.

The team wrapped up its season last month with a 3-2 victory over the University of Toronto Blues, marking the first time since 1974 the OWIAA hockey title has come to Guelph. Coach Sue Scherer — a Guelph grad and former varsity hockey player — believes it was respect that made the difference.

"This team epitomizes what sport is all about and the personal growth it can encourage," she says. "Members respect each other, their sport, their academic programs and the community to which they belong. I am very proud of them."

This year's team was a mixture of experience and youth with eight returning and nine first-year players. Scherer believes this combination gave the team a unique energy that, when harnessed with a group effort, had everyone pulling successfully in one direction. Having always encouraged her athletes to achieve a healthy balance of rest, work (academic as well as athletic) and fun, she believes the team is proof positive that athletics and academics need not be mutually exclusive.

"With a balanced lifestyle, one can play at this level and be a strong athlete without having to give everything up," she says. "With care, peaking both athletically and academically is possible."

The OWIAA is currently the highest level of competition open to female varsity hockey players provincially, although a Canadian Interuniversity Athletic Union title is expected soon. With women's hockey slated to become an inaugural Olympic sport in 1998, Scherer believes the veil is being lifted off women's connection to this sport.

"Hockey is culturally connected

to Canada, and women here have been playing it in organized forms for a century."

These Gryphons bring the spirit of sport to others by hosting intramural clinics and related events. A recent sledge hockey game for students with disabilities was a resounding success, says Scherer. "The fact that these athletes are so willing to give contributes to their success." □



## Floundering to success

*Hockey team takes a dive to get in the swim of things*

by Kerith Waddington  
University Communications

**Question:** Would you be pursuing athletics or having a nightmare if you found yourself sporting (that's a hint) swim trunks, water-polo headgear, a mask and snorkel, spear-fishing fins and a glove?

**Answer:** You'd be playing the nation's favorite sport (with a twist).

Underwater hockey — a sport that's about 45 years old and has the same players, positioning (minus the goalie) and strategies as ice hockey — has a long history at U of G. "The Flounders" have been breathing deeply and passing the puck in campus pools for 15 years as part of the growing wave of popularity the sport is enjoying in Canada.

Team members compete in about five tournaments a year, including the upcoming College Royal tournament to be held March 18 from 9 a.m. to 1 p.m. in the gold pool.

With their ongoing roster of practices and informal games with 10 Ontario club teams, the Flounders keep members busy year-round. Team co-president Liam Good, a PhD student in molecular biology and genetics who's been playing for three years, believes participating is time and energy well spent.

"The sport is essentially serious, but we play for fun," he says. "I enjoy the water environment and athletics generally, so for me, this is a perfect solution. And even with lots of action, underwater hockey goes easy on joints because the water supports your body weight."

Guelph B.Sc. graduate Jennifer Lukianchuk — one of five female Flounders, cites her own reasons for playing for eight years.

"It's a great way to stay in shape, and I enjoy working as part of a team," she says. "I'm just learning

ice hockey, and I expect to be able to apply the skills I've already developed as a Flounder to it because the structure is so similar."

Although the similarities are many, the equipment used in pursuing the almighty puck underwater required some modifications.

The stick used by players is wooden, about one foot long and designed for efficient puck handling and passing. A glove and water-polo cap are worn for protection against injury; spear-fishing fins are worn for speed. A mask and snorkel enable players coming up for air to blow water out of the snorkel and breathe while keeping an eye on the game and moving into strategic positions. And because there could be no game without a puck that sinks, it is heavier than those used in ice hockey and coated with plastic.

Not surprisingly, this unusual sport had an unusual birth. In the 1950s, the British Army's "Underwater Demolition Squad" began playing hockey while immersed in the wet stuff as a fun way to stay fit for the job. Since then, the sport that is both similar to and unique from its earth-bound sibling has been growing in popularity. Some countries now have hundreds of teams.

Stick handling, puck passing and strategy remain integral to productive play, says Good, who stresses that, like soccer, underwater hockey is essentially a non-contact sport. He identifies good spatial abilities and comfort with using a mask and snorkel as the skills needed to succeed in this sport. Beginners will be glad to know these skills can be mastered in the first few weeks of play, he says.

Newcomers are always welcome and have free use of equipment for the first semester. The team — a student initiative that supports its costs with raffles, banquets and a \$30-a-semester fee for life guards and pool time — particularly welcomes full-time staff to give the Flounders long-term stability. If you're interested, contact Good at Ext. 8311 or email: lgood@uoguelph.ca. □



Members of Guelph's women's varsity hockey team celebrate a goal at a final league game. Photo by Ooug Percival

## Prof faces off against Don Cherry

by Steve O'Neill  
Office of Research

Is dapper Don Cherry a threat to anyone except the fashion-conscious? Drama professor Ric Knowles thinks so.

Knowles says that former Boston Bruins coach Cherry, CBC star of Hockey Night in Canada's popular *Coach's Corner*, exploits and promotes dangerous traits such as misogyny, homophobia and xenophobia, all in the name of Canadian patriotism.

"People tend to dismiss Cherry as simply a hockey commentator," says Knowles, who addressed a recent College of Arts colloquium on cultural studies. "But his impact goes beyond hockey. It's ideologically loaded. It affects everyone who watches him."

And that's a lot of people. Knowles, a former Junior A player with the Oshawa Generals, says *Coach's Corner* is so popular that some viewers tune in only for the outspoken Cherry's five-minute segment.

"Coach's Corner began as a standard hockey program and grew," says Knowles. "I wanted to see what its popularity means from a cultural standpoint." His own interest in Cherry and *Coach's Corner* stems from both his fondness for hockey and his background in cultural studies.

"Part of what cultural studies does is to 'read' the world as if it were a text," he says. "That includes looking at how popular culture shapes society. People use that material to shape the way they think about their lives and how they deal with the world."

Knowles says Cherry's contribution to the way Canadians think about their lives and deal with the world may be a negative one. Specifically, Knowles points to the way Cherry presents Canadian values as tough, macho and working-class. In so doing, he demonizes female, foreign or effeminate qualities as un-Canadian and threatening, in ways that are implicitly misogynist, homophobic and xenophobic, says Knowles.

For example, Cherry likens European players who rely on technical skill rather than working-class Canadian "heart" to entertainers with the Ice Capades. He belittles them for "having their own teeth," a sharp comparison with the toothless grins of some of his personal favorites such as Canadian-born star Doug Gilmour of the Toronto Maple Leafs. And during last year's Stanley Cup finals, Cherry went so far as to criticize the CBC when it interrupted *Coach's Corner* to report what he called "Lower Slobovia attacking Slimca."

"Consciously or not, that's promoting racism while people are getting killed," says Knowles.

He believes Cherry's influence goes beyond his "fans." He appeals to viewers through his uniquely "Canadian" language, which people find familiar, regardless of whether they take him seriously, says Knowles. And because of that, he believes Cherry's impact is double-edged. Cherry mixes comments that foster dangerous prejudices with claims to be against the exploitation of hockey and of Canadian culture by multinational corporations. That supports the stereotype that all people opposed to such exploitation are working-class bigots, Knowles says.

"Cherry simultaneously appeals to Canadian nationalism while making it look stupid, making members of the working class look stupid and making social criticism look stupid."

Knowles believes that Cherry's popularity stems in part from his appeal to Canadian populism in the face of harsh economic realities. In the name of patriotism, Cherry plays on viewers' fears and hostilities.

"Coach's Corner takes potentially positive aspects of a Canadian nationalism resistant to social and cultural globalization and aligns them with an American-style 'macho' patriotism," says Knowles. "That drives wedges between nationalists and activist groups such as feminists, who otherwise might be allies." □



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## NOTICES

### New phonebooks in

1995/96 Bell Canada telephone books have been delivered to campus. If you did not receive yours, call Arlene Weller at Ext. 4219 or send e-mail to Arlene@tel-serv.ccs.uoguelph.ca. Old books can be left at the back door or loading docks of all campus buildings. When all the books have been collected, call waste-management co-ordinator Alex Hall at Ext. 2054 to arrange to have them picked up and recycled.

### Sunday concerts

The Church of Our Lady is hosting a series of Sunday afternoon concerts. Scheduled are a soprano and clarinet recital March 19, an organ recital March 26 and the Concorde String Orchestra April 2. All concerts start at 3 p.m. and last an hour. Admission is free, but donations to the church's music fund are welcome.

### Leadership award offered

Submissions for the third annual Gordon Nixon Leadership Award are being accepted until March 31. The \$10,000 award is made available for student organizations to

support initiatives involving student involvement, leadership and service. Application forms are available at the Connection Desk on Level 3 of the University Centre. For more information, call the Office of Student Affairs at Ext. 3868.

### Spice of life

The Mac-FACS Alumni Association is sponsoring a talk by University of Waterloo counsellor Sunny Sundberg on "Stress Can Be the Spice of Life" March 27 at 7:30 p.m. at the Arboretum.

### March art break

Guelph Museums presents a series of art workshops for kids aged five to eight and eight to 12 March 20 to 24 at the Guelph Civic Museum. Cost is \$10 per session. Registration is required. For information, call 836-1221.

### Icelandic field course

A slide show and talk about U of G's Icelandic multidisciplinary environmental field course, to be offered for the first time this August, will be held March 23 at 7:30 p.m. in Room 265A of the Axelrod

Building. Guest speakers from Iceland will be on hand. For more information or for application forms for the course, call Prof. Steven Cronshaw, Psychology, at Ext. 2163 or Prof. David Noakes, Zoology, at Ext. 2747.

### Used-computer fair

A used-computer fair will be held in the University Centre courtyard March 16 and 17. Regular booth space is available, and equipment can be dropped off on a consignment basis of 20 per cent of selling price. Hours are 10 a.m. to 7 p.m. both days, and admission to the public is free. For more information, call Bill Pollock at Ext. 2927.

### Y offers courses

Beginning in April, the YMCA-YWCA of Guelph is offering a course on assertiveness training for eight Mondays and a course called "Discover Yourself" for eight Tuesdays. Both run from 7 to 9:30 p.m. and cost \$60. Register by April 7.

### Nominees sought

The Student Leadership Program is looking for nominations for its 1995 Rookie Award. This award honors a student in any semester who has become actively involved in campus life for the first time and has made valuable contributions to a club or organization. The deadline for nominations is March 17. For more information or nomination forms, visit the Connection Desk on Level 3 of the University Centre.

### Musical Mondays

The Department of Music launches its Mondays at Noon series March 27 with "Student Soloist Day." Featured performers are pianist Lyn Wong, soprano Kathryn Enticknap, tenor Robert Ellis and mezzo-soprano Sally Tomasevic. Also performing are Paul Bray on clarinet and Prof. Mary Woodside on piano. The concert begins at 12:10 p.m. in Room 107 of the MacKinnon Building. Admission is free.

### Housing seminars

Student Housing Services continues its seminar series on living off campus March 22 and 23 in the Off-Campus Housing Office in Maritime Hall and March 27 in the Lennox-Addington fireplace lounge. The hour-long seminars begin at 6 p.m.

### Career planning

The U of G Alumni Association is sponsoring an alumni career-planning workshop May 5 to 7 on campus. It will be led by staff from the Counselling and Student Resource Centre. Cost is \$225. All participants must attend a pre-testing session either April 13 in Guelph or April 12 in Toronto. For registration information, call the Office of Open Learning at Ext. 2905.

### Jazz night

April 6 is Jazz Night at the University Club. The U of G Jazz Ensemble, directed by Prof. Howard Spring, Music, performs at 9 p.m. Admission is \$2.

### Elderhostel adventures

Elderhostel Canada has released its summer 1995 catalogue outlining educational adventures for older adults who are retired or about to retire. It can be viewed at local public libraries. For more information, call Elderhostel Canada, 613-530-2222.

### Microelectronics talks

A Symposium on Microelectronics Research and Development in Canada will be held June 19 and 20 in Ottawa to discuss the challenges and opportunities facing the Canadian microelectronics community. The symposium will also host TEXPO, an annual exhibition of student and faculty research organized by the Canadian Microelectronics Corp. For more information, call Tony Stansby at 613-592-1817 or Lynda Moore at 613-545-2917 or send e-mail to mrdcan@cmc.ca.

### UN photo contest

The UN Environment Program and Canon, Inc., are sponsoring an international photography competition open to professional, amateur and child photographers. Top winners in the three divisions will receive \$20,000, \$10,000 and \$1,000 respectively. Entrants are asked to submit photos that depict the beauty of the Earth and encourage improvements in controlling pollution and alleviating the destruction of natural resources. The deadline for entries is April 30. For an entry form, call 1-800-670-4321. There is no entry fee. □

## JOBS

As of *At Guelph* deadline March 10, the following opportunities were available:

**Senior Vehicle Mechanic, Grounds/Transportation.** Salary: \$18.15 an hour job rate, probation rate \$.20 lower than job rate. Removal date: March 17.

**Manager, Revenue Control, Financial Services.** Salary: \$42,858 minimum, \$50,359 normal hiring limit, \$53,573 midpoint. Removal date: March 17.

*The following positions were available to on-campus employees only:*

**Library Assistant, Centralized Collection Maintenance, Circulation and Interlibrary Services, Library.** Salary: \$11.90 minimum, \$14.88 job rate, \$17.86 maximum. Removal date: March 15.

**Custodian 3, Housekeeping,**

**night shift.** Salary: \$13.70 job rate, probation rate \$.20 lower. Removal date: March 15.

**Custodian 4, Housekeeping.** Salary: \$14.27 job rate, probation rate \$.20 lower. Removal date: March 15.

**Lead Hand Custodian 1-4, Housekeeping.** Salary: \$14.98 job rate, probation rate \$.20 lower. Removal date: March 15.

**Truckmount Operator, Housekeeping.** Salary: \$14.87 job rate, probation rate \$.20 lower. Removal date: March 15.

**Secretary, Dean's Office, College of Biological Science.** Salary: \$13.17 minimum, \$16.46 job rate, \$19.76 maximum.

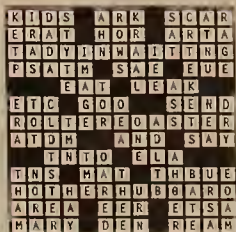
It is the University's policy to give prior consideration to on-campus applicants. To determine the availability of University employment opportunities, visit Client Services on Level 5 of the University Centre or call 836-4900. □

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Custom-built tables and desks, chairs, computer equipment and miscellaneous items, all used but in excellent condition, Ext. 3654.

1980 Monte Carlo, certifiable but needs brakes, comes with extra rims, Dave or Alex, 836-7682.

Transportation Services has the following uncertified vehicles for surplus sale on a closed-bid basis — 1988 Ford Taurus, four-door sedan, V6 automatic, 140,853 kilometres; 1984 Dodge B250 eight-passenger van, V8 automatic, 115,000 km. Submit bids to Paul Cook, Transportation Services, Vehicle Services Building, by March 31 at 4:30 p.m.

### FOR SALE

Handmade queen-size quilts, three patterns; baby crib quilt, Lynne, Ext. 2864.

35mm SLR camera equipment: Olympus OM-2S program body with 50mm lens; 24mm 1:2.8 lens; 135mm 1:3.5 lens; 65-200mm zoom lens, all in excellent condition, 837-9917.

Three-bedroom brick bungalow, quiet cul-de-sac on park, walk to schools, downtown, University, private sale, 767-9872.

1896 Outlast Ciera, V6 automatic, excellent condition, 824-5378 weekends or after 5 p.m. weekdays.

### FOR RENT

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Three-bedroom house, 10-minute walk to downtown, washer/dryer, freezer, lots of storage space and parking, available May 1, \$600 a month plus utilities.

Condo apartment backing on to conservation area, clean and quiet building, laundry, parking, available May 1, \$575 inclusive; large one-bedroom attic apartment in elegant Victorian home, downtown area, non-smoker, no pets, \$685 inclusive, responsible individuals only, available May 1, 837-1717.

Two-bedroom apartment, close to all amenities, available May 1, 836-0399.

### WANTED

Part-time research assistant for four to five weeks, must have good working knowledge of ARC/INFO and SAS, salary dependent on experience and qualifications, Ext. 2177/6535.

Classifieds is a free service available to U of G staff, faculty, students and alumni. Items must be submitted in writing by Wednesday at noon to Linda Graham on Level 4 of the University Centre or fax to 824-7962. For more information, call Ext. 6581.

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# CALENDAR

## THURSDAY, MARCH 16

**Seminar** - An information session for international students on taxes is at noon in MacNaughton 201.

**Concert** - The Department of Music presents a free concert featuring pianist Ralph Elsaesser at noon in MacKinnon 107.

**Readings** - Writual is hosting an evening of readings at 8 p.m. in the University Club. Guests include Leon Rooke, Joshua Willoughby and Prof. Janice Kulyk Keefer, English. Cost is \$4.

**College Royal** - The Curtain Call production of *City of Angels* opens tonight at 8 p.m. in War Memorial Hall and continues nightly until March 18, with a 2 p.m. matinee on Saturday. Tickets are \$6 at the door.

## FRIDAY, MARCH 17

**Nutritional Sciences Seminar** - Suzanne Hendrich of Iowa State University discusses "Bioavailability and Biological Effects of Soybean Isoflavones" at 11:10 a.m. in Animal Science/Nutrition 141.

**Biomedical Sciences Seminar** - Postdoctoral fellow Philippa Whitelaw discusses "Studies on Cell Growth and Differentiation in Rat Skeletal Muscle and Ovary" at 12:10 p.m. in Biomedical Sciences 1642.

**Economics Seminar** - "Evaluating Control Instruments for Improving Surface and Ground-Water Quality from Diffuse Sources" is the topic of PhD student Anastasia Lintner at 3:30 p.m. in MacKinnon 132.

## SATURDAY, MARCH 18

**College Royal** - The annual open house runs from 9 a.m. to 5 p.m., featuring a wide range of displays and events across campus.

**Arboretum** - Come experience the sights, sounds, smells and tastes of making maple syrup today and tomorrow from 10:30 a.m. to 4:30 p.m. Cost is \$2.50 for adults, \$1.50 for children five to 12, free for preschoolers.

## SUNDAY, MARCH 19

**College Royal** - The open house continues from 10 a.m. to 5 p.m.

## MONDAY, MARCH 20

**Student Leadership Series** - "Onward and Upward: Making the Transition" is the topic at 5:10 p.m. in the Eccles Centre.

**French Studies Lecture** - Renowned Quebec playwright Michel Marc Bouchard discusses his work and the future of theatre in Quebec at 7 p.m. in MacKinnon 107. The lecture will be in French.

## TUESDAY, MARCH 21

**Our World** - "Structural Adjustment Program: Its Effect on Rural Woman Farmers in Zimbabwe" is the focus at 12:10 p.m. in UC 430.

**Biomedical Sciences Seminar** - "Health Status of St. Lawrence Beluga Whales" is the topic of Sylvain DeGuise of the University of Quebec at 12:10 p.m. in OVC Learning Centre 1715.



Quebec playwright Michel Marc Bouchard speaks March 20.

**Physics Seminar** - Mark Sutton of McGill University discusses "Intensity Fluctuation Spectroscopy Using Coherent X-Rays" at 4 p.m. in MacNaughton 113.

## WEDNESDAY, MARCH 22

**Plant Biology Seminar** - Peter McCourt of the University of Toronto considers "A Role of Protein Farnesyl Transferase in Plant Hormone Action" at 3:30 p.m. in Axelrod 117.

**Wild Bird Clinic Club** - Ken Rozniak will give a talk on falconry at 7 p.m. For location, call Ext. 4573.

## THURSDAY, MARCH 23

**Veterinary, Microbiology and Immunology Seminar** - Microbiologist Stephen Betschel of Mount Sinai Hospital discusses "Necrotizing Fasciitis and Toxic Shock-Like Syndrome—The Resurgence of Group A *Streptococcus*" at 11:10 a.m. in VM1 101. Anyone wishing to meet with Betschel should call Prof. John Prescott at Ext. 4715.

**Pathology Seminar** - Graduate student Emma Hamilton examines "Risk Factors Associated with the Hatchability of Trumpeter Swan Eggs—the Ontario Restoration Program" at 11:10 a.m. in Pathology 2152.

**Concert** - The Department of Music presents a free concert featuring Courtney Westcott on baroque flute, Mary Cyr on baroque cello and Sandra Mangsen on harpsichord at noon in MacKinnon 107.

**Mathematics and Statistics Seminar** - "Likelihood and Bayesian Approximation Methods" is the topic of University of Toronto statistician Nancy Reid at 3:10 p.m. in MacNaughton 201.

## WORSHIP

Roman Catholic Eucharist is celebrated Sundays at 10:10 a.m. in Thornbrough 100.

The Open Door Church (Anglican/United/Presbyterian) runs Sundays at 7 p.m. in UC 533.

Care of the Soul, a meditative service, runs Thursdays at 12:10 p.m. in UC 533.

Womanspirit, a spirituality circle open to all women, runs Fridays at 12:10 p.m. in UC 533.

"Alone But Not Alone" is the topic of Anne Orfold March 19 at 10:30 a.m. at the Guelph Unitarian Fellowship on Harris Street and York Road. □

**Landscape Architecture Seminar** - "The Gardens of Fletcher Steele, Landscape Architect" is the focus of Robin Karson at 6:30 p.m. at the Macdonald Stewart Art Centre. A reception to mark the opening of an exhibit of Steele's work begins at 5:30 p.m.

**Concert** - The Spring Time Quartet performs works by Charlie Parker, George Gershwin, Cole Porter, Miles Davis and Duke Ellington at 8 p.m. at the Macdonald Stewart Art Centre. Tickets are \$8 general, \$5 for students and seniors, and are available from the Department of Music at Ext. 3127.

## FRIDAY, MARCH 24

**Nutritional Sciences Seminar** - Mohamad El-Osta discusses "The Cellular Basis for Immunodepression in Malnutrition" at 11:10 a.m. in Animal Science/Nutrition 141.

**Evolution/Systematics Seminar** - "Adaptive Aspects of Sexual Reproduction in Fishes: Sperm Allocation by Males" is the topic of Douglas Shapiro of Eastern Michigan University at 3:10 p.m. in Animal Science/Nutrition 141.

**Economics Seminar** - Albert Berry of the University of Toronto examines "The Impact of Economic Liberalization on Labor Market Outcomes and Income Distribution in Latin America" at 3:30 p.m. in MacKinnon 132.

**Concert** - The U of G Orchestra and U of G Concert Winds perform at 8 p.m. at War Memorial Hall. Tickets are \$8 and \$5.

## SATURDAY, MARCH 25

**Arboretum** - Maple Syrup Days run today and tomorrow from 10:30 a.m. to 4:30 p.m. Cost is \$2.50 for adults, \$1.50 for children five to 12.

## MONDAY, MARCH 27

**Sociology and Anthropology Seminar** - "Hookers, Cops and Politicians: The Politics of Prostitution Control" is the topic of lecturer Nick Larsen at 11:10 a.m. in MacKinnon 132.

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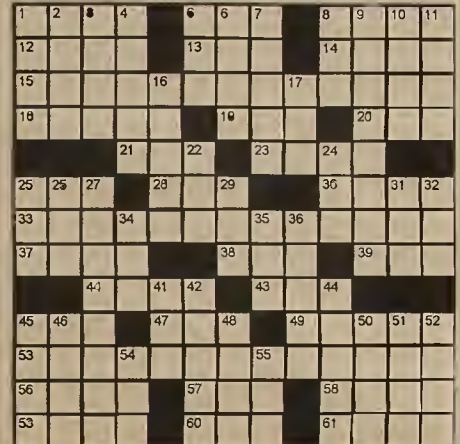
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### ACROSS

1. Young goats
5. Sacred chest
8. Disfigurement
12. Part of QED
13. And not
14. Operatic solo
15. Queen's attendant
18. Sacred song
19. Plant pouch
20. Prompt
21. Act corrosively
23. Become known
25. And so forth
28. Sticky substance
30. Drop a letter
33. Amusement park ride
37. Tiny particle
38. Ampersand
39. Express in words
40. Preposition of direction
43. Guido's highest note
45. Officeholders
47. Dignity of a Cardinal
49. Permeate with dye
53. Nursery rhyme character
56. Region
57. Mountain ending
58. "Bom Free"

### DOWN

1. Seaweed
2. Gershwin and Levin
3. Art movement
4. Mode of speech
5. Actress Wedgeworth
6. Brawls
7. African village
8. Occupied a chair
9. Buddy Holly's band
10. Japanese aboriginal
11. Fit of anger
16. Mirror reflection
17. "Fire and \_\_\_\_"
22. High craggy hill
24. Donkey
25. Time period
26. Add up
27. Monastic life
29. Wood sorrel
31. Educational group
32. Empty of water
34. K-O connection
35. United
36. Improvisation on stage
41. Definite article
42. Propelled a punt
44. Fossil resin
45. Moslem priest
46. "The Thin Man" wife
48. "Of \_\_\_\_ I Sing"
50. Large bundle
51. Minor
52. Dutch cheese
54. Fodder
55. Coffee server

For crossword  
solution, see page 6.

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# Kids are the experts in designing local playground

by Anne LeBold  
Office of Research

U of G researchers, Homewood Hospital and industry leader Paris Playground Equipment are teaming up with the experts in playground technology — children — to come up with new ideas for playground design.

It's in response to a request from a Guelph-based day care attended by landscape architecture professor Nate Perkins' children. When the centre's playground needed redesigning, the staff asked Perkins for help. He turned the tables and sought the children's input.

Since then, Paris Playground Equipment — Canada's largest manufacturer in the field — has agreed to donate customized equipment for the project. The Paris equipment, along with 3-D computer graphics and environmental behavior research has allowed Perkins and master's students George Antoniuk and Steve Bamhart to put a brand-new spin on playground design.

"This project is an excellent way for Paris Playground Equipment to harmonize its product develop-

ment efforts with the leading edge in landscape architecture in a socially beneficial manner," says Harrison Hadwen, the firm's director of North American sales. "It's the true spirit of partnership. Everybody wins."

The day-care centre, located on the Homewood Hospital property in Guelph, is a non-profit centre in a historical house that was once the medical superintendent's home, set in a beautiful sloped woodlot.

Perkins saw the centre's need as a great opportunity for research. He and his graduate students sought staff feedback by meeting with them throughout the design process and showing them the new playground via computer visual 3-D models (Perkins' research has shown that sketches and plans are hard for laypeople to understand).

Antoniuk then spent last fall in the playground collecting data on the children's play behaviors, to better understand their play patterns and to design a playground to meet their needs.

The researchers assessed specific problems such as high-traffic areas in the playground and a hill

that slopes from the woodlot down on to the asphalt play area. The new design addresses safety concerns while providing the children with a dynamic, avant-garde environment that encourages interaction with the natural world and is as cost-effective as possible.\*

Here are some of the changes the new design proposes:

- Adding two custom-designed play structures with slides and tubes to crawl through. The new approach to the play structures stresses esthetics. The architects are using as motifs the existing historical architecture of Homewood Hospital, including classical white columns and triangular porticos.
- Planting trees and shrubs throughout the playground to provide shade and places where the children can plant flowers and vegetables.
- Creating a path up one side of the hill and down the other to encourage exploration and eliminate tripping on tree roots.
- Adding "talk tubes," tubes that protrude from the ground at both the bottom and top of the hill so that children can com-

municate with each other, and supervisors can speak to the children at the top of the hill.

- Erecting white poles, set against the woody background, for the children to create with. They could hang banners, bird-feeders or windchimes on them, build forts or simply swing on them.
- Painting the pavement with colorful designs.

The day-care staff is pleased with the proposed changes. Homewood's Julie Grayson says she and other staff are excited about the project.

"We think it's wonderful," she says. "We've had a lot of input from the beginning right up until the final design, and we're really looking forward to the changes."

Next month, U of G's MLA students will have a chance to get their hands dirty at a building blitz to install the new playground.

"What's been really rewarding is that this has turned into a large-scale research project with community input and industry participation — it's something that's rarely done," says Perkins. "Besides, designing with kids is fun." And he thinks it could be a model



for kid-driven playground design elsewhere.

This project is sponsored by the Ministry of Community and Social Services, Homewood Hospital, Paris Playground Equipment and the Landscape Research Group at U of G. □

## PEOPLE

Professor emerita Eleanor Cebotarev, Sociology and Anthropology, was awarded an honorary doctorate in family development this month by the University of Caldas in Manizales, Colombia. Cebotarev, who is the director of the College of Social Science Collaborative International Development Studies program, is the first woman to be recognized by the university in this way and only the fifth recipient of this honor in the university's 50 years of existence.

As part of Trent University's writers' reading series, Prof. Janice Kulyk Keefer, English, read from her anthology *Borderlines: Stories of Exiles and Home* and from her upcoming novel, *The Green Library*. □

## GRAD NEWS

The final oral examination of Sukhpal Singh, a D.V.Sc. candidate in the Department of Clinical Studies, is March 27 at 9:10 a.m. in OVC Learning Centre 1715. The thesis is "Modification of Cardiopulmonary and Gastrointestinal Motility Response of Xylazine and Xylazine-Ketamine with Glycopyrrrolate in Horses." The adviser is Prof. Wayne McDonnell.

The final examination of PhD candidate David Chikoye, Crop Science, is April 7 at 10 a.m. in Room 307 of the Crop Science Building. The thesis is "Modelling Common Ragweed Competition in White Bean." His adviser is Prof. Clarence Swanton.

The final examination of Randy Giroux, a PhD candidate in the Department of Crop Science, is March 21 at 2 p.m. in Room 307 of the Crop Science Building. The thesis is "Characterization of Embryogenesis-Related Gene Products in Alfalfa." The adviser is Prof. Peter Pauls. □

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